INSTALLATION & OPERATING INSTRUCTIONS

for

IMPINGER® CONVEYOR OVENS
MODEL SERIES X2
3240-2, 3262-2, 3270-2

COMCATER
- foodservice equipment

TO BE SERVICED ONLY BY AUTHORIZED PERSONS

Lincoln

Enodis STAR CERTIFIED SERVICE AND PARTS

NSF®

CE 0063AQ4580
0063

IMPORTANT WARNING AND SAFETY INFORMATION

FOR YOUR SAFETY, DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE. DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING, AND MAINTENANCE INSTRUCTIONS THROUGHLY BEFORE INSTALLING OR SERVICING EQUIPMENT.

* Obtain from your local gas provider and post in a prominent location instructions to be followed in the event gas odors are detected.
* It is required that the oven be placed under a ventilation hood to provide for adequate air supply and ventilation.
* Minimum clearances must be maintained from all walls and combustible materials. See “spacing instructions” for more information.
* Keep the oven free and clear of combustible material.
* Adequate clearance for air openings to the combustion control chamber on both sides of the oven is required.
* Do not obstruct the ventilation holes in the control panels, as these provide the combustion air for the burner and cooling air for the controls.
* The oven is to be operated only on the type of gas and/or electricity as shown on the specification plate.
* The power burner will not operate and gas will not flow through the burner without electrical power.
* This manual should be retained for future reference.
* The electrical wiring diagram is located under the control box cover.

PURCHASER'S RESPONSIBILITY

It is the responsibility of the purchaser:

1. To see that the gas and electric services for the oven are installed on site in accordance with the manufacturers specification.
2. To unload, uncrate, and install oven in its proper location; in accordance with installation operation manual.
3. To see that the gas and electric services are connected properly by a qualified installer of your choice. *For installation in the State of Massachusetts: Installation of this oven must be performed by a licensed plumber or gas fitter.* All such connections must be in accordance with applicable code requirements. Refer to page 12 for specific code references.
4. To arrange for inspection and operation checkout by an Authorized Service Technician as described below.
5. These ovens are for professional use only and shall be used by qualified people.

Do not attempt to operate the oven until connection of utility service has been fully **inspected** by an **Authorized Service Technician** or a **Lincoln Foodservice Products, LLC Service Representative**. This service is required by Lincoln Foodservice Products, LLC in order to assist the purchaser in proper start-up of oven on site. Please note the specific details on Warranty and make certain that service connections are made to proper utility services.

The warranty shall not apply if the oven(s) are started up and operated prior to the utilities and oven being inspected and check out made by an Authorized Service Technician or a Lincoln Foodservice Products, LLC Service Representative.

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DESCRIPTION AND SPECIFICATIONS

EQUIPMENT DESCRIPTION

Lincoln Impinger X-2 Dual Conveyor Ovens utilize two (2) conveyors in a single bake chamber and columns of forced hot-air for commercial baking and roasting applications. This is accomplished by rotating blower wheel(s) on a common shaft to generate high velocity heated air which is then directed into columns and then to the product using a series of air ducts commonly referred to as “fingers”.

Natural gas or propane is required to heat the baking air along with either single (standard) or three phase (optional) electric power.

These ovens are unique because they feature two conveyors in a single bake chamber instead of the traditional single conveyor. These appliances are only for professional use and must be used by qualified people.

MODELS

	Single Oven		Double Oven		Conveyor Number and Belt Width per Oven								
		Total Conveyors		Total Conveyors			Max. Oper. Temp.	Bake Time Range*	Unit Wt. (lb.)	Ship Wt. (lb.)	Shipping Crate L	W	H
Model	Configure		Configure		Upper	Lower							
3240-2	Standard	2	Standard	4	1 ea. - 32" (1 ea. - 812)	1 ea. - 32" (1 ea. - 812)	600 F 316 C	2.25 min.to 16.0 max	1100 500 kg	1200 550 kg	90" (2286)	32" (813)	72" (1829)
3240-2TS	Upper Belt Split	3	Upper Belt Split	6	2 ea. - 16" (2ea. - 406)	1 ea. - 32" (1 ea. - 812)	600 F 316 C	2.25 min.to 16.0 max	1100 500 kg	1200 550 kg	90" (2286)	32" (813)	72" (1829)
3240-2SB	Lower Belt Split	3	Lower Belt Split	6	1 ea. - 32" (2ea. - 406)	2 ea. - 16" (2ea. - 406)	600 F 316 C	2.25 min.to 16.0 max	1100 500 kg	1200 550 kg	90" (2286)	32" (813)	72" (1829)
3240-2SS	Both Belts Split	4	Both Belts Split	8	2 ea. - 16" (2ea. - 406)	2 ea. - 16" (2ea. - 406)	600 F 316 C	2.25 min.to 16.0 max	1100 500 kg	1200 550 kg	90" (2286)	32" (813)	72" (1829)
3262-2	Standard	2	Standard	4	1 ea. - 32" (1 ea. - 812)	1 ea. - 32" (1 ea. - 812)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)
3262-2TS	Upper Belt Split	3	Upper Belt Split	6	2 ea. - 16" (2ea. - 406)	1 ea. - 32" (1 ea. - 812)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)
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3262-2SS	Both Belts Split	4	Both Belts Split	8	2 ea. - 16" (2ea. - 406)	2 ea. - 16" (2ea. - 406)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)
3270-2	Standard	2	Standard	4	1 ea. - 32" (1 ea. - 812)	1 ea. - 32" (1 ea. - 812)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)
3270-2TS	Upper Belt Split	3	Upper Belt Split	6	2 ea. - 16" (2ea. - 406)	1 ea. - 32" (1 ea. - 812)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)
3270-2SB	Lower Belt Split	3	Lower Belt Split	6	1 ea. - 32" (2ea. - 406)	2 ea. - 16" (2ea. - 406)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)
3270-2SS	Both Belts Split	4	Both Belts Split	8	2 ea. - 16" (2ea. - 406)	2 ea. - 16" (2ea. - 406)	600 F 316 C	2.25 min.to 16.0 max	1400 640 kg	1500 680 kg	120" (3048)	32" (813)	72" (1829)

numbers in parenthesis are in millimeters.

*Bake Time Range for X2 Digital Control is 1-30 minutes.

UNITED STATES AND CANADA

NOTE: For proper operation, the gas valve requires a nominal inlet pressure of 8 inches of H2O column for natural gas and 13 inches of H2O column for L.P. gas. Pressure must be maintained with no pressure drop from the no load to full load condition. The maximum inlet pressure must be maintained at or below 1/2 PSIG (14.5 inches H2O column). Manifold must be maintained at 3.5" on Nat. and 10" on L.P. gas. Refer to the chart on the right for pressure conversions.

INTERNATIONAL / EXPORT MODEL AND KEY NUMBER

The "MODEL" field on the specification label contains a model number and a nine-digit configuration number. The last letter in the configuration number is the designation for CE marked units.

Example:	MODEL:	3262-2SS 3262S0KAC
	MODELL:	

COUNTRY	LANGUAGE	CODE	NOT USED
France	French	B	A
Germany	German	C	I
Italy	Italian	D	O
Spain	Spanish	E	Q
United Kingdom	English	F	
Luxembourg	French German	B	
Portugal	Portuguese	H	
Denmark	Danish	J	
Belgium	Dutch French German	K	
Netherlands	Dutch	L	
Ireland	English	F	
Greece	Greek	M	
Austria	German	C	
Finland	Finnish	N	
Norway	Norwegian	P	
Sweden	Swedish	R	

All ovens require separate electrical service and dedicated neutral.

GAS PRESSURE CONVERSION CHART

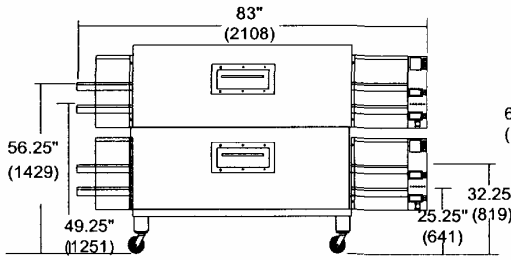
Inches of Water Column	kPa	m-Bar	Millimeters of Water Column
3.5	0.87	8.7	88.9
4.5	1.12	11.2	114.3
7	1.74	17.4	177.8
10	2.48	24.87	254
10.5	2.61	26.11	266.7
11	2.73	27.36	279.4
14	3.48	34.81	355.6
14.5	3.61	36.05	368.3

International Gases - CE

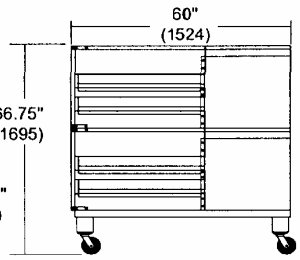
Countries	Gas Categories	Inlet Pressures	Min.Pres.	Max.Pres.
Austria - AT	II2H3B/P	H - 20 mbar	17 mbar	25 mbar
		B/P - 50 mbar	42.5mbar	57.5mbar
Belgium - BE	I2E+, I3+	E - 20 mbar	17 mbar	25 mbar
		B - 29 mbar	25mbar	35mbar
		P - 37 mbar	25 mbar	45 mbar
Germany DE	II2ELL3B/P	E/L - 20 mbar	17 mbar	25 mbar
		B/P - 50 mbar	42.5mbar	57.5mbar
Spain - ES	II2H3+	H - 20 mbar	17 mbar	25 mbar
		B - 29 mbar	25mbar	35mbar
		P - 37 mbar	25 mbar	45 mbar
Finland - FI	II2H3B/P	H - 20 mbar	17 mbar	25 mbar
		B/P - 30 mbar	25mbar	35mbar
United Kingdom GB	II2H3+	H - 20 mbar	17 mbar	25 mbar
		B - 29 mbar	25mbar	35mbar
		P - 37 mbar	25 mbar	45 mbar
Greece - GR	II2H3B/P	H - 20 mbar	17 mbar	25 mbar
		B/P - 30 mbar	25mbar	35mbar
France - FR	II2E+3+	E - 20 mbar	17 mbar	25 mbar
		B - 29 mbar	25mbar	35mbar
		P - 37 mbar	25 mbar	45mbar
Ireland - IE	II2H3+	H - 20 mbar	17 mbar	25 mbar
		B - 29 mbar	25mbar	35mbar
		P - 37 mbar	25 mbar	45 mbar
Iceland - IS	I3B/P	BP - 30 mbar	25mbar	35mbar
Italy -IT	II2H3+ II2H3B/P	B - 29 mbar	25mbar	35mbar
		P - 37 mbar	25 mbar	45 mbar
		B/P - 30 mbar	25mbar	35mbar
Luxembourg LU	II2E3B/P	H - 20 mbar	17 mbar	25 mbar
		B/P - 50 mbar	42.5mbar	57.5mbar
Netherlands NL	II2L3B/P	L - 25 mbar	20mbar	30mbar
		B/P - 30 mbar	25mbar	35mbar
Norway - NO	I3B/P	B/P - 30 mbar	25mbar	35mbar
Portugal - PT	II2H3+	H - 20 mbar	17 mbar	25 mbar
		B/P - 29/37 mbar	25mbar	45mbar
Sweden - SE	II2H3B/P	H - 20 mbar	17 mbar	25 mbar
		B/P - 30 mbar	25mbar	35mbar
Denmark - DE	II2H3B/P	H - 20 mbar	17 mbar	25 mbar
		B/P - 30 mbar	25mbar	35mbar

Model 3240-2

* All dimensions in parenthesis are in millimeters

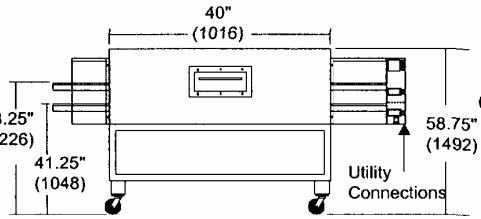


Side View - Stack Configuration

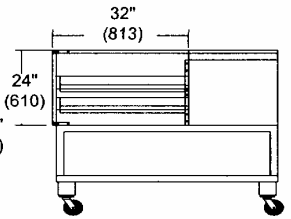


End View - Stack Configuration

Bake chamber opening is 2-3/4",(69.9) for each conveyor.



Side View - Single Configuration



End View - Single Configuration

ELECTRICAL SPECIFICATIONS

	Phase	Voltage	Hz	Amps	KW/HR	Wiring	Circuit Breakers
U.S. & Canada	Single	120 / 230 VAC	60	13.0		2 pole, 1N, 1G	Per Local Code
U.S. & Canada	Three	120 / 230 VAC	60	10.0		3 pole, 1N, 1G	Per Local Code
International / Export	Single	230 VAC	50	13.0	3	1 pole, 1N, 1G	20 Amp
International / Export	Three	230 / 415 VAC	50	10.0	3	3 pole, 1N, 1G	16 Amp

GAS SUPPLY SUPPLIED BY CUSTOMER

	Fuel Type	Configuration	Min. Gas Pipe Size	Gas Shut-Off Valve Size	Gas Supply Pressure Minimum	Gas Supply Pressure Maximum	Manifold Pressure	Power
United States & Canada	Natural Gas	Single of Double	2" NPT (50.8)	3/4" NPT each oven (19.1)	8" (WC) (203)	14" (WC) (267)	3.5 (WC) (88.9)	200,000 BTU/HR per chamber
United States & Canada	Propane	Single of Double	1.5" NPT (38.1)	3/4" NPT each oven (19.1)	13" (WC) (279)	18" (WC) (330)	10" (WC) (88.9)	200,000 BTU/HR per chamber

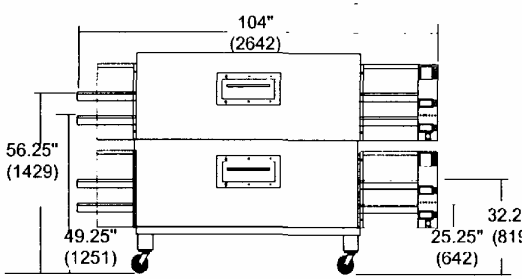
International / Export	Fuel Type	Gas Connection	Configuration	Burner Pressure	Nominal Heat Input (Hi)
	I2H, I2E, I2E+	3/4" (19.1)	Single or Double	8,8 mbar	57, 0 W
	I2L, I2LL	3/4" (19.1)	Single or Double	8,8 mbar	48.0 kW
	I3B	3/4" (19.1)	Single or Double	18.0 mbar	57, 0 kW
	I3P	3/4" (19.1)	Single or Double	18.0 mbar	48.0 kW

MINIMUM CLEARANCES

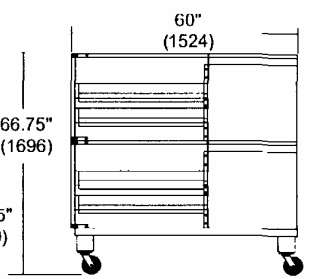
Rear of Oven to Wall	Control Panel to Wall
2" (50)	2" (50)

Model 3262-2

* All dimensions in parenthesis are in millimeters

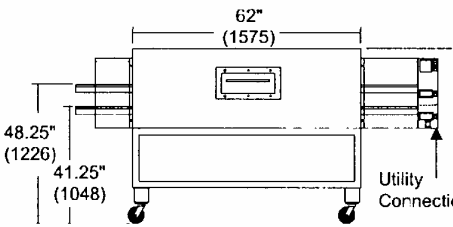


Side View - Stack Configuration

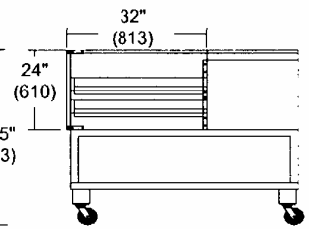


End View - Stack Configuration

Bake chamber opening is 2-3/4", (69.9) for each conveyor.



Side View - Single Configuration



End View - Single Configuration

ELECTRICAL SPECIFICATIONS

	Phase	Voltage	Hz	Amps	KW/HR	Wiring	Circuit Breakers
U.S. & Canada	Single	120 / 230 VAC	60	13.0		2 pole, 1N, 1G	Per Local Code
U.S. & Canada	Three	120 / 230 VAC	60	10.0		3 pole, 1N, 1G	Per Local Code
International / Export	Single	230 VAC	50	13.0	3	1 pole, 1N, 1G	20 Amp
International / Export	Three	230 / 415 VAC	50	10.0	3	3 pole, 1N, 1G	16 Amp

GAS SUPPLY SUPPLIED BY CUSTOMER

	Fuel Type	Configuration	Min. Gas Pipe Size	Gas Shut-Off Valve Size	Gas Supply Pressure		Manifold Pressure	Power
					Minimum	Maximum		
United States & Canada	Natural Gas	Single of Double	2" NPT (50.8)	3/4" NPT each oven (19.1)	8" (WC) (203)	14" (WC) (267)	3.5 (WC) (88.9)	200,000 BTU/HR per chamber
United States & Canada	Propane	Single of Double	1.5" NPT (38.1)	3/4" NPT each oven (19.1)	13" (WC) (279)	18" (WC) (330)	10" (WC) (88.9)	200,000 BTU/HR per chamber

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	I2L, I2LL	3/4" (19.1)	Single or Double	8,8 mbar	48.0 kW
	I3B	3/4" (19.1)	Single or Double	18.0 mbar	57, 0 kW
	I3P	3/4" (19.1)	Single or Double	18.0 mbar	48.0 kW

MINIMUM CLEARANCES

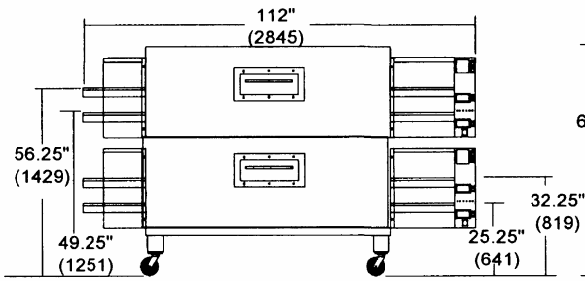
Rear of Oven to Wall	Control Panel to Wall
2" (50)	2" (50)

Model 3262-2

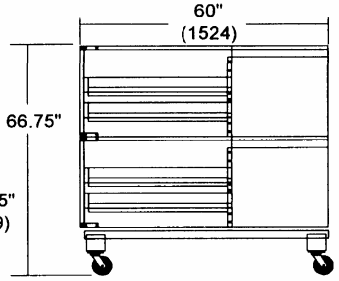
Model 3270-2

* All dimensions in parenthesis are in millimeters

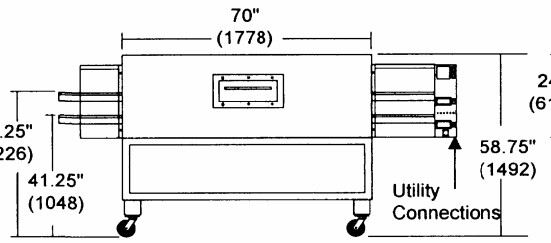
Bake chamber opening is 2-3/4", (69.9) for each conveyor.



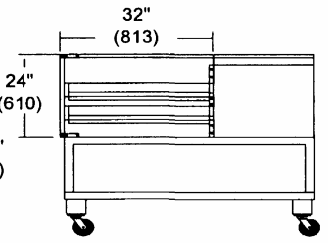
Side View - Stack Configuration



End View - Stack Configuration



Side View - Single Configuration



End View - Single Configuration

ELECTRICAL SPECIFICATIONS

	Phase	Voltage	Hz	Amps	KW	Wiring	Circuit Breakers
U.S. & Canada	Single	120 / 230 VAC	60	13.0		2 pole, 1N, 1G	Per Local Code
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	Fuel Type	Configuration	Min. Gas Pipe Size	Gas Shut-Off Valve Size	Gas Supply Pressure Minimum	Gas Supply Pressure Maximum	Manifold Pressure	Power
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MINIMUM CLEARANCES

Rear of Oven to Wall	Control Panel to Wall
2" (50)	2" (50)

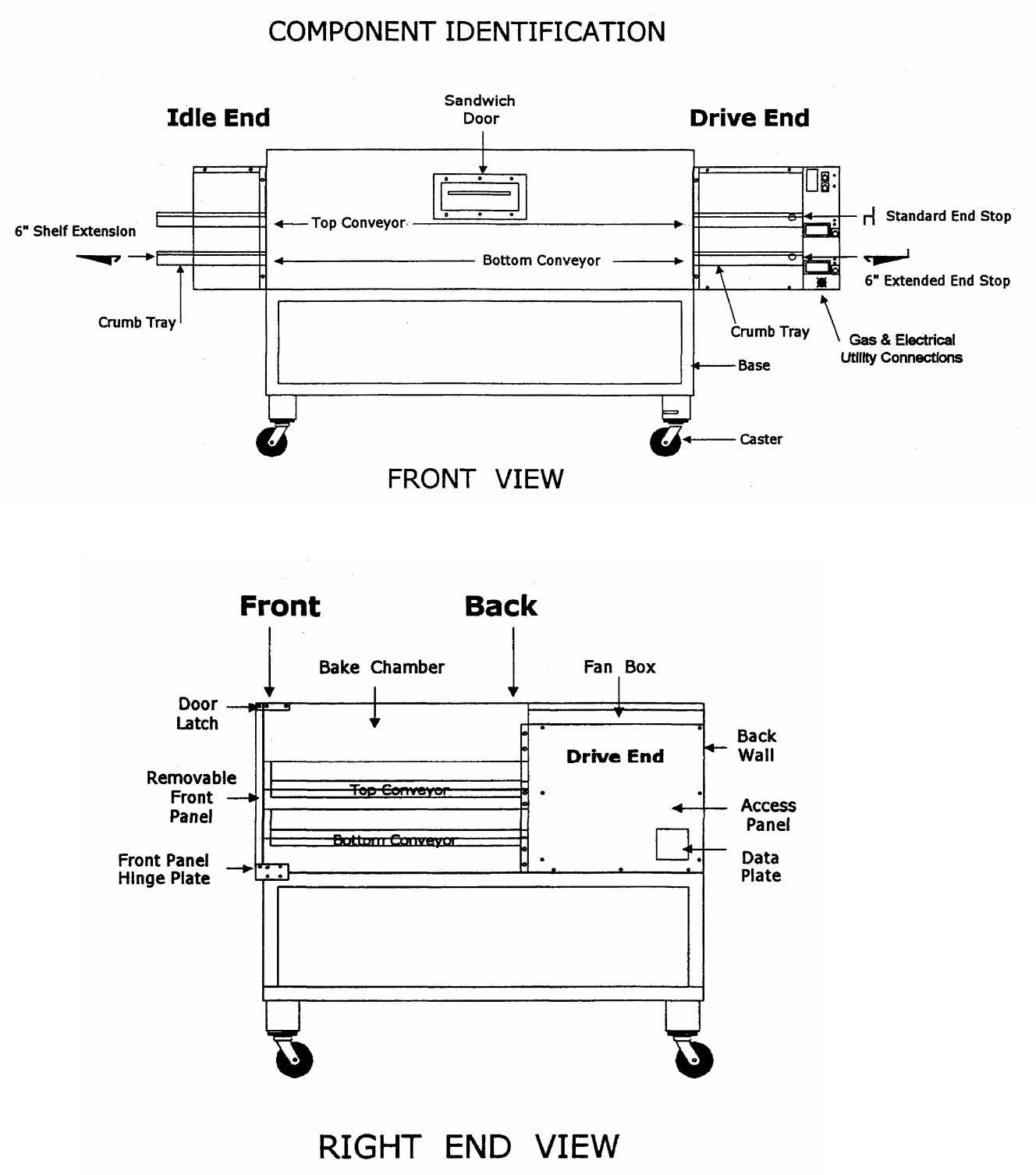
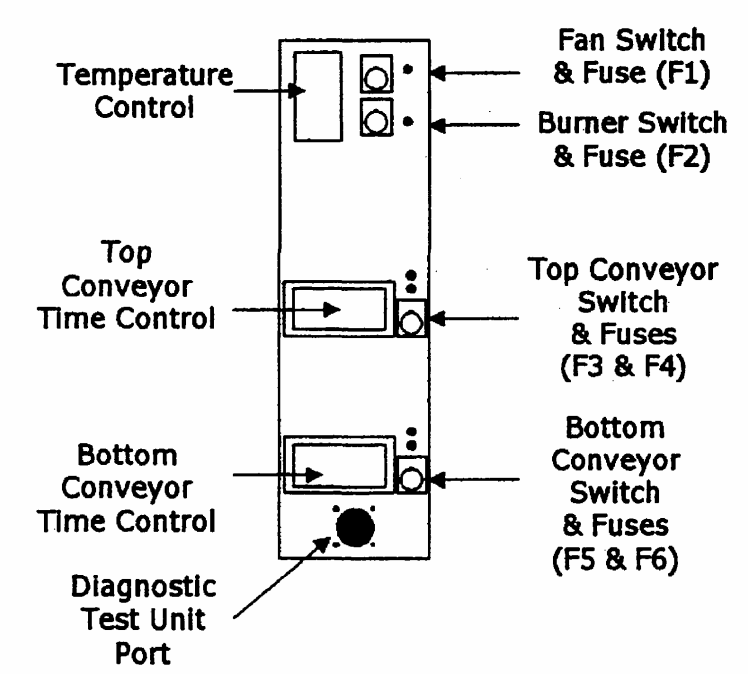
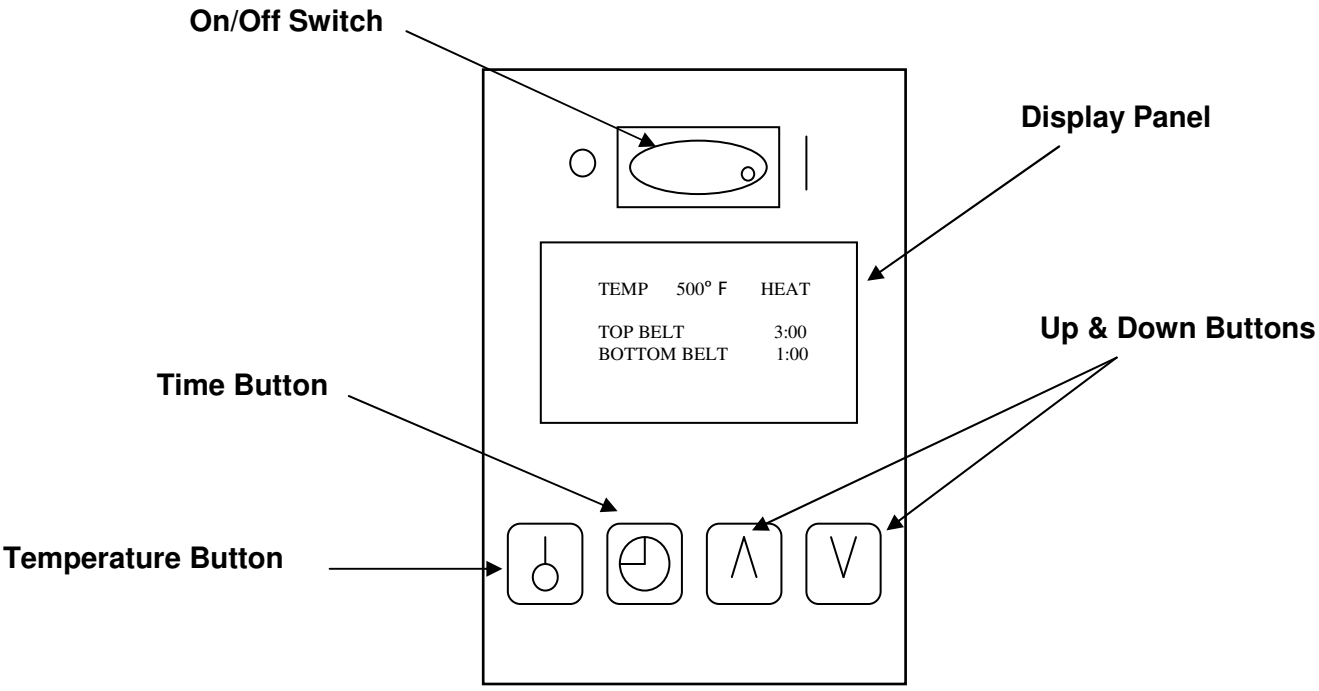


FIGURE A

Rev. 4/05



ANALOG CONTROL PANEL



PUSH BUTTON CONTROL PANEL

FIGURE B

Rev. 4/05

!!! WARNING !!!

THE SAFE AND PROPER OPERATION OF THE UNIT IS DEPENDENT UPON PROPER INSTALLATION. AN IMPROPER INSTALLATION CAN CAUSE INJURY TO PERSONNEL AND/OR DAMAGE TO THE UNIT.

READ AND UNDERSTAND ALL THE INSTALLATION INSTRUCTIONS BEFORE ATTEMPTING TO INSTALL THE OVEN. PERSONNEL QUALIFIED TO WORK WITH ELECTRICITY AND PLUMBING MUST PERFORM THE INSTALLATION. ***FOR INSTALLATION IN THE STATE OF MASSACHUSETTS: INSTALLATION OF THIS OVEN MUST BE PERFORMED BY A LICENSED PLUMBER OR GAS FITTER.***

PRE-INSTALLATION SITE SURVEY

Upon ordering a Lincoln X-2 Oven, a Site Survey form was provided to you by your dealer or the factory. This information was used to configure your oven as well as assist you in preparing your facility for oven installation including reviewing gas pressure and volume requirements and ventilation conditions. Also, measure the width of counters and doorways to ensure adequate access and clearance.

RECEIVING THE OVEN

When the oven arrives it should consist of:
1. A crate containing oven body, conveyor(s), fingers, crumb pans, and crumb pan stop.
2. A package containing the stand and casters.
3. Box with accessories (optional).

It is recommended that you have a material-handling device available to unload these.
DO NOT LIFT EXCESSIVE WEIGHT.

Lincoln X-2 Ovens are shipped in an upright or vertical manner resting on the fan box cover. The shipping crate is **36" (915 mm) wide by 76" (1930.4 mm) tall**. The conveyors are in their normal position and a separate box contains installation items.

Inspect each crate upon arrival before signing the Bill of Lading to account for all crates and packages and report any visible damage or defects, which occurred during shipment.

IF THERE IS APPARANT DAMAGE:

UNITED STATES AND CANADA: Arrangements should be made to file a claim against the carrier, as Interstate Commerce Regulations require that a claim must be initiated by the consignee.
ALL SHIPMENTS TO OTHER COUNTRIES: Freight terms will be developed and extended on an individual basis.

Proper and secure storage facilities should be arranged for the oven(s), if necessary, to protect it from outdoor or damp conditions at all times before installation. Store all units in a clean, dry environment. Adequate space should be allowed to move the oven through doors and proper equipment should be available to lift the unit for storage and installation. These arrangements should be made prior to arrival of the unit to avoid delays and mishandling.

When all the crates are unloaded, open the crates and remove all protective packaging material. Inspect at once for concealed damage. If anything appears to be damaged, contact the appropriate persons immediately to file a damage claim. After completing the inspection, finish unpacking the oven and all other components.

INSTALLATION OVERVIEW

Familiarize yourself with the installation process as outlined in the manual and note the unique requirements of your particular model. Select electricians and plumbers who have experience installing conveyor ovens and food service equipment. *For installation in the State of Massachusetts: Installation of this oven must be performed by a licensed plumber or gas fitter.* Conduct a site visit several days before the installation is scheduled. Utilities should be installed prior to installation. The following is an overview of the installation process:

1. Read this manual thoroughly.

2. Make sure all electric, gas, and ventilation utilities are adequately sized and in place well before the oven arrives.

3. Inspect the oven and crates for freight damage upon arrival. Assemble the oven on its base near the area of intended usage and level the unit. Remove all combustibles and obstructions from the area.

4. Have your qualified installer make all gas connections per national and local building codes. Provide adequate clearance to access the gas shut-off valve. Check for leaks!

5. Have your electrician make all electrical connections per national and local codes. Provide adequate clearance to access the electrical plug by a fixed electrical connection in front of the appliance. It is required to use an all pole switch having a contact separation of at least 3 mm in all poles.

6. Install a restraint device and make sure it guards against transmission of strain to all utility connections.

7. Have a factory-authorized technician inspect the installation and perform the initial start-up. The Installation Report should be completed by the start-up service technician and signed by the technician and customer representative. Lincoln will not honor warranty claims unless the completed and signed installation report is received (see Warranty, page 2).

8. Test the exhaust hood using a smoke candle test to determine the amount of combustion products removed.

CODE REFERENCES (UNITED STATES AND CANADA)

In the United States and Canada follow all local codes when installing the unit. In the absence of local codes, the installation must conform to the National Fuel Gas Code **ANSI Z223.1/NFPA 54 latest version,** or the Natural Gas and Propane Installation Code, **CSA B149.1 latest version,** as applicable.

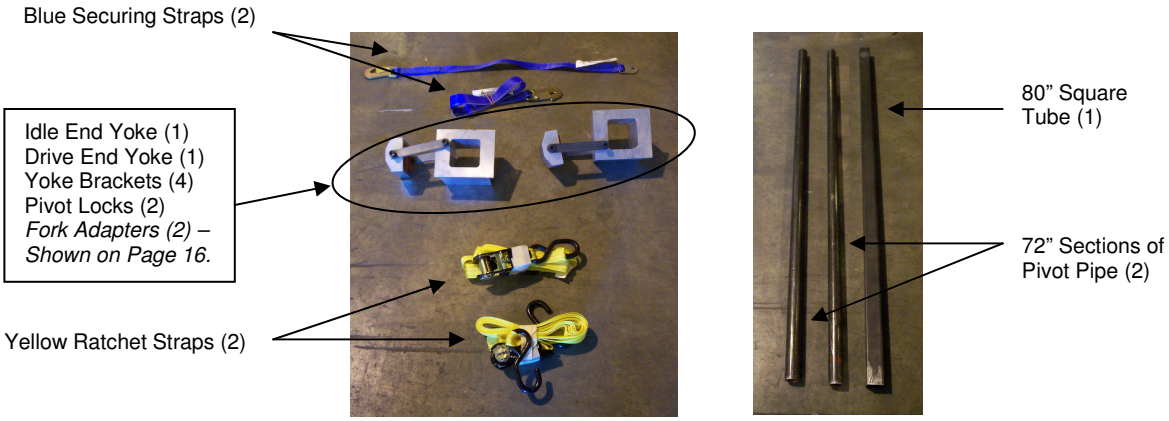
When installed, the oven must be electrically grounded in accordance with local codes. In the absence of local codes, the installation must be electrically grounded in accordance with the National Electrical Code **ANSI/NFPA 70**, latest version, or the Canadian Electrical Code **CSA C22.2**, as applicable. This oven requires an exhaust hood that conforms to **ANSI/NFPA 96-1990** or latest version.

ALL OTHER COUNTRIES: Local gas and /or electrical codes will prevail. (See page 5)
1. All pole disconnection switch 3-mm open contact distance.
2. To prevent electrical shock, an equal potential bonding ground lug is provided in the back. This allows the oven to be connected to an external bonding system.
3. If used as a double stack, each oven should have it's own disconnection switch. All switches should close together.

LIFT AND TILT SYSTEM

Follow these step-by-step instructions to utilize the lift and tilt system in reducing Lincoln X-2 oven installation time. This system may be used on any Lincoln X-2 oven model. DO NOT rush or hurry this procedure. Take adequate time and double-check all steps to prevent damage to the oven.

1. Inspect Lift-and-Tilt package to ensure completeness. The following items should be included:



NOTE: Ratchet Straps are included as an additional resource in transporting ovens (if necessary) and are not required in the completion of this lift-and-tilt procedure.

2. Place the Lincoln X-2 oven (on its shipping pallet) on a flat and level surface near the area where the oven will be installed.

3. Remove any metal banding, shrink wrap, cardboard and other shipping material from the oven.

4. Remove the following items from the oven bake chamber:
   ~ Front Panel
   ~ BOTH Conveyors
   ~ All Finger Assemblies
   ~ All Air Returns
   ~ All Finger Guide Assemblies

5. Place the Drive End Yoke and Idle End Yoke in each end of upper conveyor opening. Note: To install yokes properly you must first insert yoke sideways (figure 1) into baking chamber. Once inside baking chamber, rotate Yoke so that the bolt is facing UP (figure 2).

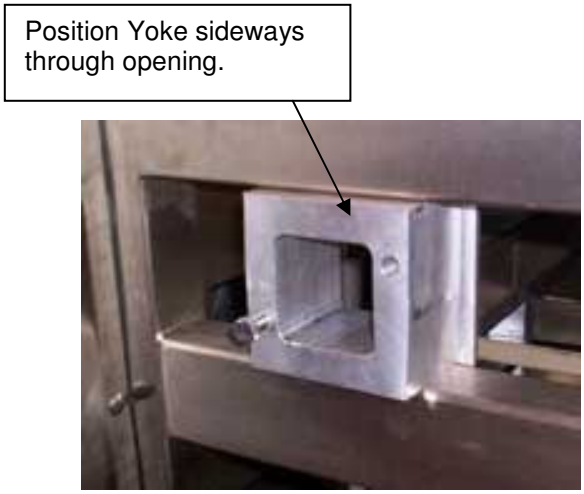


Figure 1

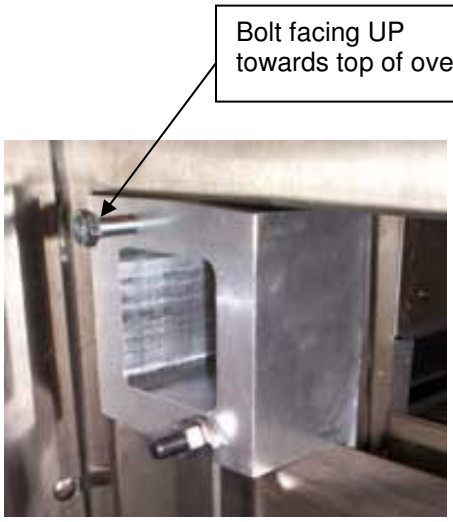


Figure 2

6. Place Pivot Lock in each end of lower conveyor opening and attach, with brackets, to the Yoke.
   Note: Bolts should be "finger tight" to allow movement of pivot lock.

Idle End

Drive End

7. Insert 80" Square Tube through Idle End and Drive End Yokes.

Drive End View of
Square Tube in Yoke

8. Insert sections of 72" Pivot Pipe through Drive End and Idle End Yokes. Sections of Pivot Pipe *must* meet in middle of Square Tube inside oven. Excess piping should extend out each end of Square Tube.

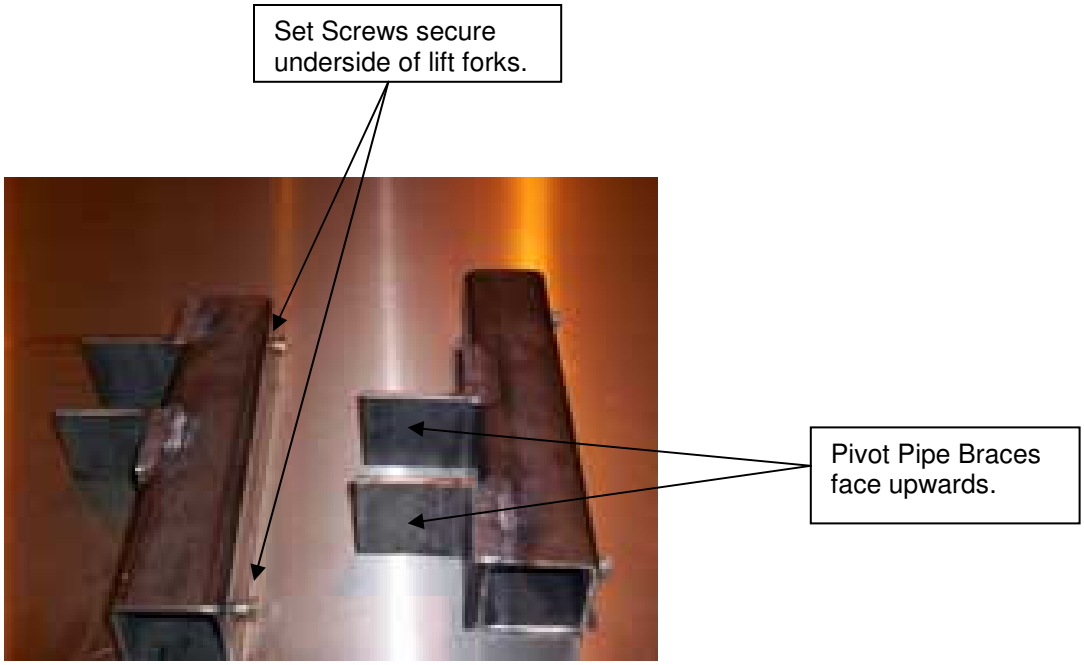
View of Pivot Pipe inserted into Square Tube.

9. Attach Securing Strap to each Yoke (figure 1). Attach latch end of Securing Strap to bracket on back of oven (figure 2).

Figure 1

Figure 2

10. Attach Fork Adapters to each Genie Lift and secure underside of lift forks with set screws. Pivot Pipe Braces will be facing upwards to secure Pivot Pipe in place. Place Genie Lifts in position on either side of X-2 oven.



11. With a person at each Genie Lift, slowly rotate the mechanisms and lift the oven off the pallet. Keep unit level.

12. Once the pallet is removed, rotate or tilt the oven to a horizontal position. The oven should rotate about the Pivot Pipes. All the weight is placed on the upper bake chamber.

13. Raise the oven to the desired height and lower onto the stand or on top of the bottom oven in a stack configuration.

14. Remove the Securing Straps, Pivot Pipes, Square Tube, Pivot Locks, Drive and Idle End Yokes, and Lift/Tilt Bracket attached to back of oven.

15. Install all items including:
    - ~ Front Panel
    - ~ BOTH Conveyors
    - ~ All Finger Assemblies
    - ~ All Air Returns
    - ~ All Finger Guide Assemblies

16. Continue oven installation and start-up.

NOTE: Ratchet Straps are included as an additional resource in transporting ovens (if necessary) and are not required in the completion of this lift-and-tilt procedure.

ASSEMBLY INSTRUCTIONS

Normally, the oven can be placed on the fan box cover (in a vertical manner), placed on two dollies with four (4) swivel wheels and moved through a normal door opening. Check for adequate clearance before attempting to install the unit.

Schedule time for an electrician and plumber to connect the utilities. Review the utility requirements with service people before the installation to insure that adequate service is available. Installations typically require permits and inspections, which must be scheduled with local regulatory agencies.

If the oven does require disassembly, use the instructions on page 33.

1. Remove the front panel, return air ducts, air fingers and conveyors.
2. Align the entire oven with the oven base and install the four base plates securing the oven to the base (see Figure C1 or C2 – Pages 24 or 25).
3. Install the lower distribution ducts to the plenum openings.
4. Repeat the procedure for the middle and upper distribution ducts respectively.
5. Install the lower, middle and upper return air ducts in order.
6. Install the conveyors making sure the couplings on the conveyor drive shafts are properly engaged.
7. Install the front panel.
8. Install crumb trays.
9. Assembly is complete, proceed with leveling and start-up.

After the unit is assembled, the plumber and the electrician should be able to make their necessary connections.** Roll the unit into position. Refer to Figure D (Page 28) for clearance on the back and sides. Do not restrict airflow to the bottom of the mechanical compartment or louvers. Keep louvers and bottom of oven clean and free of restrictions. Make sure enough space is allowed around the unit for maintenance and service access. Do not block access to the manual gas shutoff valve.

For an appliance equipped with casters, the installation shall be made with a connector that complies with the Standard for Connectors for Moveable Gas Appliances, ***ANSI Z21.69 • CSA 6.16 latest version****, and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel,* ***ANSI Z21.41 • CSA 6.9 latest version****. Adequate means must be provided to limit the movement of the appliance without depending on the connector and the quick-disconnect device or its associated piping to limit the appliance movement.*

Install the restraint and make sure it limits the movement of the oven. One end of the restraint should be connected to a stud, post or concrete wall which is strong enough to hold the weight of the oven whenever it is moved. The other end of the restraint should be connected to an eyelet located on the bottom of the base near the rear casters. The restraint must guard against transmission of strain to all utility connections.

***For installation in the State of Massachusetts: installation of this oven must be performed by a licensed plumber or gas fitter.*

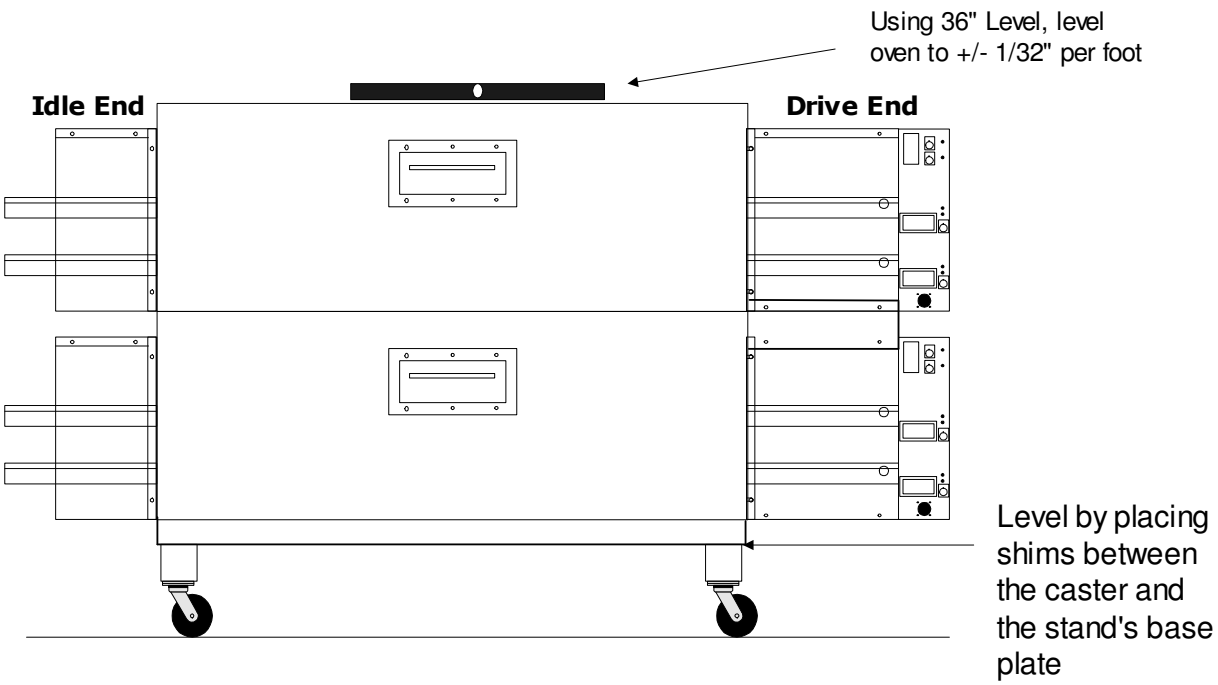
OVEN LEVELING

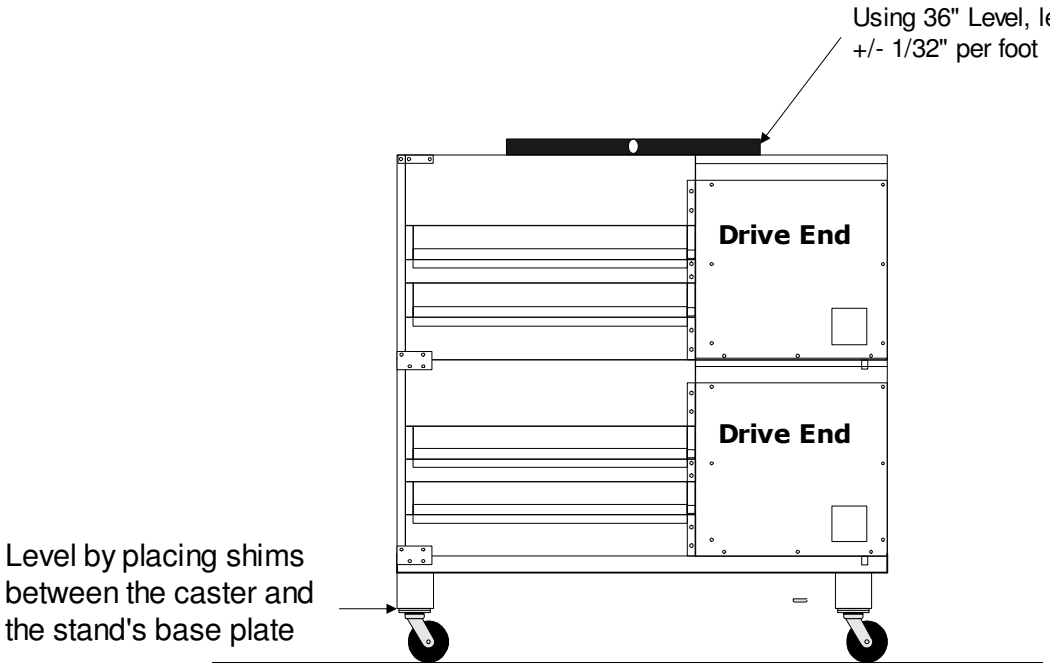
Once the oven has been assembled, it must be leveled in two (2) directions:

Left to Right
Front to Back

Figure E (Page 18) illustrates the leveling requirements. Using a 36" level, place shims between the casters and the base plates on the stand to bring the oven within the +/- 1/32" per foot level requirement. Failure to level the oven in both directions may negatively affect oven performance and/or cause excessive vibration.

OVEN LEVELING DIAGRAM



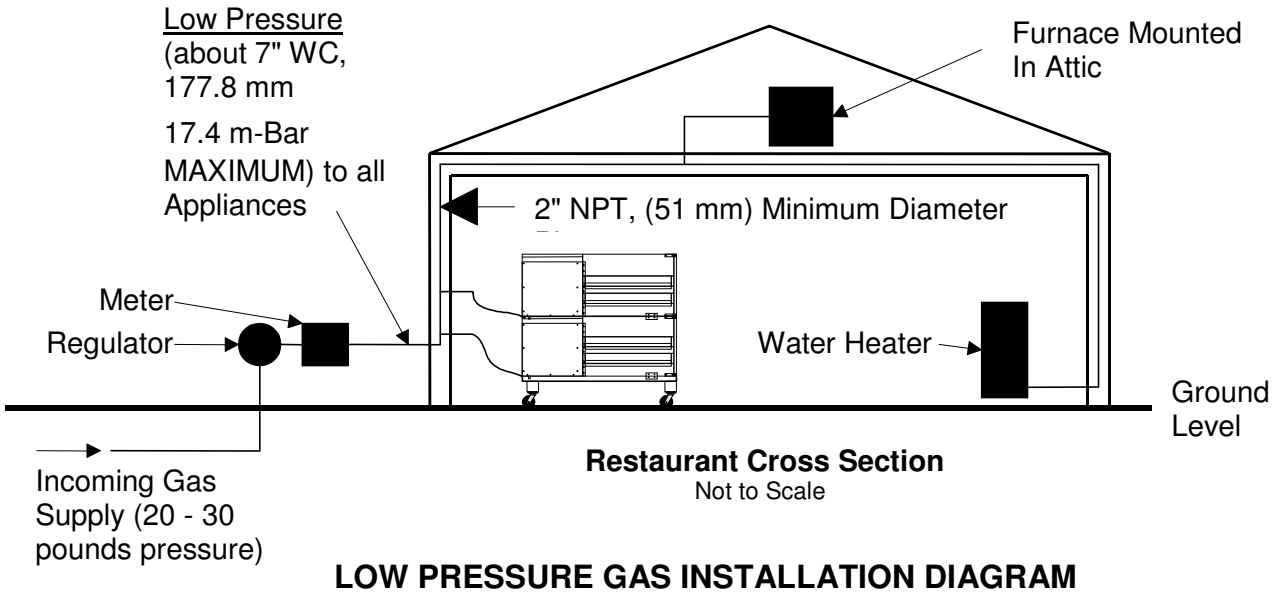


NOTE: Re-check level after oven has been moved for cleaning or servicing

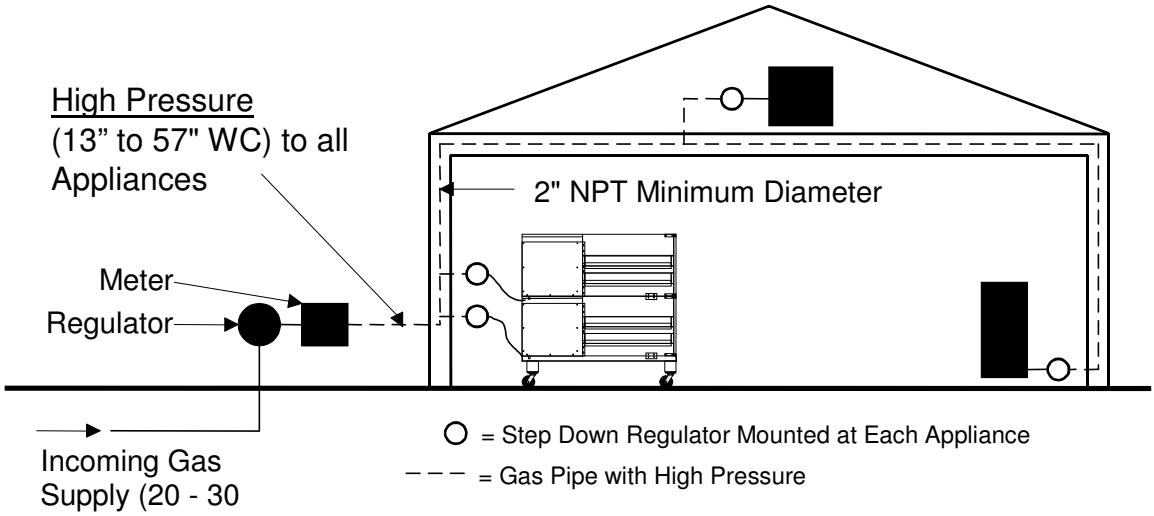
FIGURE E

Rev. 8/1/00

UNITED STATES AND CANADA
E-FLOW DUAL CONVEYOR OVENS
GAS PRESSURE ILLUSTRATION



LOW PRESSURE GAS INSTALLATION DIAGRAM



HIGH PRESSURE GAS INSTALLATION DIAGRAM for UNITED STATES & CANADA ONLY

NOTES:

1. The purpose of this diagram is to illustrate one form of high pressure gas supply system. The customer is responsible for all modifications to the gas system. All modifications must meet all local codes, approved by your gas supplier and made by a licensed plumber.
2. The gas regulator and meter are typically owned by the gas supplier and they are responsible for all modifications and/or upgrades to this equipment.
3. Lincoln X-2 Ovens cannot guarantee oven performance if the minimum gas supply specifications are not met.
4. An increase in gas pressure will often cause all gas-fired appliances to operate more efficiently.
5. Gas Pressure Conversion: 1.0 Pound = 16 Ounces = 27.7 Inches Water Column (WC)

Review the specification sheets for maximum and minimum allowable pressures and hourly **BTU** consumption. Consider all gas-fired appliances at the site when sizing incoming gas lines. Insufficient, intermittent or excessive gas pressure will negatively affect the oven's performance.

IT IS THE CUSTOMERS RESPONSIBILITY TO ADEQUATELY SIZE THE INCOMING GAS LINE. Contact your gas supplier for assistance. Keep in mind that capacity of the appliances gas supply is a function of incoming line diameter, length of line from the meter and gas pressure. You must also consider any other gas-fired appliance in sizing your incoming gas line.

MINIMUM GAS REQUIREMENTS (UNITED STATES, CANADA and AUSTRALIA)

While your gas supplier may have different recommendations on gas supply specifications, we require the following minimum specifications in order to achieve optimum Lincoln X-2 Oven performance:

		Natural Gas	Propane
Gas Line Diameter with piping run of up to 150 **linear feet. Consult factory for piping run in excess of** 150 **feet.**		**2" NPT**	**1.5" NPT**
Dynamic Pressure (measured at the oven with all gas-fired appliances in operation)		**8-14" WC**	**14" WC**
Maximum Dynamic Pressure DROP **(measured at the oven with all gas fired appliances in operation)**		**1.0" WC**	**1.0" WC**
ABSOLUTE MINIMUM DYMANIC PRESSURE		**8.0" WC**	**13.0" WC**
Minimum Regulator Size (BTU per Hour)	**Single Oven**	**300,000**	**300,000**
	Double Ovens	**600,000**	**600,000**
Manifold Pressure		**3.5" WC**	**10" WC**

For Lincoln X-2 Ovens to provide optimum performance, the burner must receive at least the minimum dynamic pressure with no more than the maximum dynamic pressure drop. Dynamic pressure should never fall below the minimum value. The installation of a 1/2- pound, one pound, or two pound gas supply system will often solve the gas pressure and supply problems and should be specified prior to oven installation. See the previous page for an illustration of a low-pressure vs. high-pressure gas delivery system.

Please contact your local gas supplier prior to oven installation to make certain your facility meets or exceeds these minimum requirements.

Consult local building codes for specific gas fittings required. All gas line fittings, connectors and valves must be American Gas Association design certified. A manual gas shutoff valve must be installed so it is accessible when the oven is in the installed position. **AUSTRALIA to adhere to AG 5601-2004 and 4563-2004 Gas Installation Code.**

UNITED STATES, CANADA and AUSTRALIA

During any pressure testing of the gas supply system, the oven and the shutoff valve must be disconnected from the gas supply at pressures in excess of 1/2 psi (3.45 kPa). Pressure testing performed at 1/2 psi (3.35 kPa) or less requires closing the manual shutoff valve on the oven to isolate the oven components from the gas supply system. **AUSTRALIA to adhere to AG 5601-2004 and 4563-2004 Gas Installation Code.**

For conversion of ovens in the field from Natural Gas to Propane or from Propane to Natural Gas, an Authorized Service Agent must be contacted to perform the work.

Electrical Supply (U.S. and Canada) (UNITS WITH ANALOG CONTROL BOARD)

Lincoln X-2 ovens DO NOT utilize a control power transformer to supply the 120 volts required for controlling the oven. Regardless of electrical configuration (single or three phase) a neutral wire is required to provide 120 volt control power. All wiring must conform to local building codes.

Single Phase (Standard)

Lincoln X-2 ovens that are configured to operate on single-phase power will require a 20 amp single phase, 120 / 230VAC, three wire with ground, 60 Hz service: Two (2) "hot" or current carrying leads (red and black), one (1) neutral (white) and one (1) equipment ground (green).

Three Phase (Optional)

Lincoln X-2 ovens that are configured to operate on three-phase power will require a 20 amp three phase, 120 / 230 VAC, four wire with ground, 60 Hz service: Three (3) "hot" or current carrying leads (red, blue & black), one (1) neutral (white), and one (1) equipment ground (green).

Verify the electrical requirements of each unit from the Data Plate located on the mechanical compartment (see page 9). Each oven requires a separate **20-amp** breaker to be shut off for service and maintenance. Label both breakers if a double stack configuration is installed. An electrical wiring diagram is located inside the control box cover. We recommend that the gas and electric utilities be installed and in place well before the oven(s) arrive.

Electrical Supply (U.S. and Canada) (UNITS WITH PUSH BUTTON CONTROL BOARD)

Single Phase (Standard)

Lincoln X-2 ovens that are configured to operate on single-phase power will require a 20 amp single phase, 230VAC, two wire with ground, 60 Hz service: Two (2) "hot" or current carrying leads (red and black) and one (1) equipment ground (green).

Three Phase (Optional)

Lincoln X-2 ovens that are configured to operate on three-phase power will require a 20 amp three phase, 230 VAC, three wire with ground, 60 Hz service: Three (3) "hot" or current carrying leads (red, blue & black) and one (1) equipment ground (green).

Verify the electrical requirements of each unit from the Data Plate located on the mechanical compartment (see page 9). Each oven requires a separate 20-amp **breaker to be shut off for service and maintenance. Label both breakers if a double stack configuration is installed. An electrical wiring diagram is located inside the control box cover. We recommend that the gas and electric utilities be installed and in place well before the oven(s) arrive.**

For all other countries:
Single Phase: 230 VAC; one hot, one neutral & one ground
Three Phase: 230/415 VAC; three hot, one neutral & one ground

UTILITY CONNECTIONS

!!! CAUTION !!!

BEFORE MAKING ELECTRICAL CONNECTIONS TO THE UNIT, A VOLTAGE READING OF EACH LEG TO NEUTRAL MUST BE MADE AND RECORDED ON THE INSPECTION AND OPERATIONAL CHECKOUT SHEET. THESE READINGS MUST NOT EXCEED 130 VOLTS EACH (United States and Canada). FOR ALL OTHER COUNTRIES THESE READINGS MUST NOT EXCEED 250 VOLTS.

WARNING: **IF THE SUPPLY CORD APPEARS TO BE DAMAGED, DO NOT ATTEMPT TO OPERATE UNIT. CONTACT A SERVICE AGENT OR QUALIFIED ELECTRICIAN TO REPAIR.**

Electrical

When installed, this appliance must be electrically grounded and its installation must comply with the National Electric Code, ANSI-NFPA 70, latest version, the manufacturer's installation instructions and applicable local municipal building codes. In Canada, all electrical connections are to be made in accordance with CSA C22.1 latest version – Canada Electrical Code and/or local codes.

Electrical connections should be made by a locally licensed electrician. This will require removing the drive end access cover. The installation must comply with local codes.

For all ovens wired for three (3) phase, the electrician must check for the proper motor and blower shaft rotation when making the connections. The blower shaft should rotate CLOCKWISE when viewed form the drive end. An electrical wiring diagram is located inside the drive end access cover.

GAS (UNITED STATES AND CANADA)

Gas connections must be made by a locally licensed plumber. The installation must comply with local codes. Flexible connectors must be ¾" inch NPT and NOT exceed six (6) feet in length. All gas line fittings, connectors and valves must be American Gas Association design certified.

MASSACHUSETTS: The minimum length of a flexible gas supply hose is thirty-six (36") inches.

Ovens equipped with casters must have gas connectors that comply with:

Standard for Movable Gas Appliances, ANSI Z21.69 latest version
OR
Connectors for movable gas appliances, CSA-6.16 latest version

A quick-disconnect device should be used that complies with:

Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI Z21.41 latest version
OR
Quick Disconnect devices for use with gas fuel, CSA-6.9 latest version

RESTRAINT REQUIREMENTS

A restraint is necessary for ovens on casters. The installation shall be made with a gas connector that complies with the Standard for Connectors for Movable Gas Appliances, **ANSI Z21.69 latest version**, and a quick disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, **ANSI Z21.41 latest version.**

The installation of the restraint must limit the movement of the oven(s) without depending on the connector, the quick-disconnect device or its associated piping to limit the oven movement. The restraint(s) should be connected to an eyelet located near the rear casters. If the restraint(s) must be disconnected during maintenance or cleaning, it must be reconnected after the oven has been returned to its originally installed position.

UTILITY SERVICE LAYOUT AND SECURING OVEN TO THE BASE

The lower oven must be securely mounted to the base using the **four (4)** base mounting plates (two plates if model 3240) supplied by Lincoln. If a stack is installed, the top oven must also be secured to bottom oven. Refer to **Figure C1** (page 24) for the location of utility connections and mounting plates for single ovens and **Figure C2** (page 25) for stack configurations.

SPACING

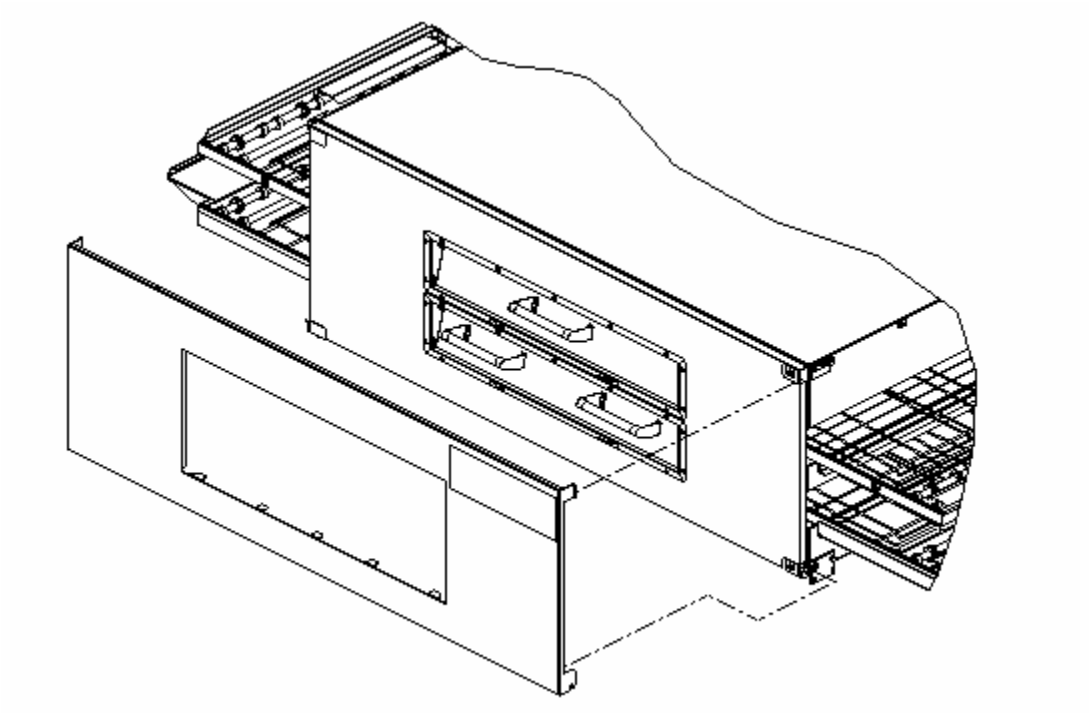
The right and back side of the oven must have a minimum 2 inch (50 mm) clearance from all surfaces. The front of the oven requires a minimum of 36 inches (914.4mm) clearance from all surfaces. A minimum clearance of 18" (457mm) on both sides of the oven may be required for service accessibility. In case other cooking equipment is located on both sides of the oven, a minimum clearance of 24" (609mm) is required from that equipment.

NOTE: Do not install this (these) oven(s) in any area with an ambient temperature in excess of 95° F (35° C). Doing so will cause damage to the unit(s).

CAUTION: Oven(s) must be operated on approved bases only.

X2 HEAT SHIELD INSTALLATION

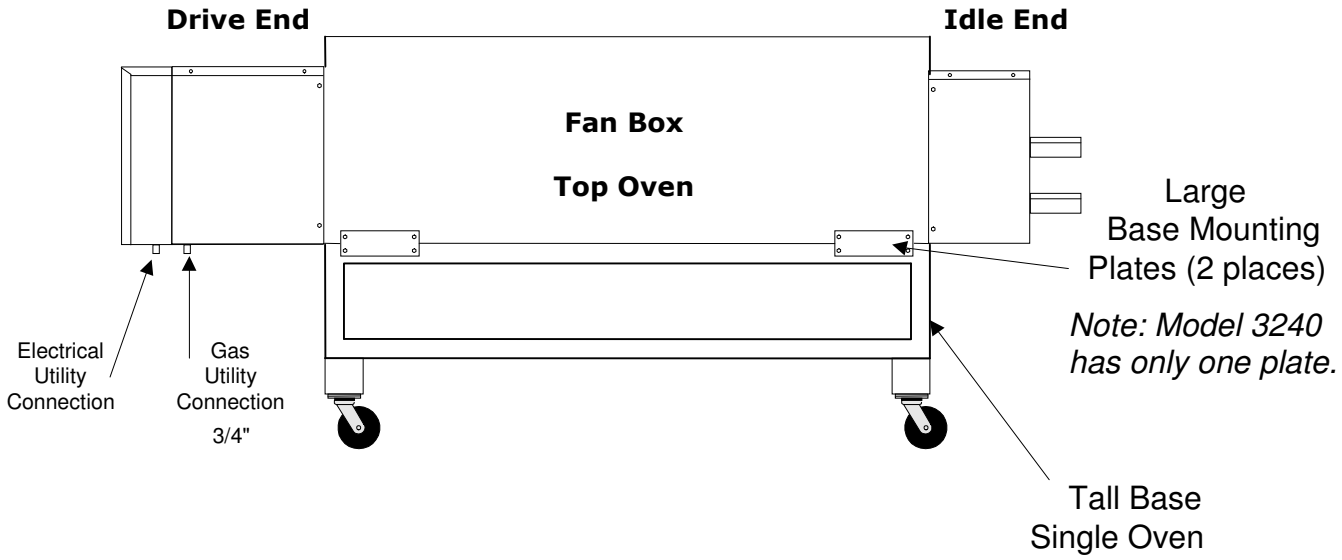
WITH THE RECOMMENDATION OF USING TWO PEOPLE,



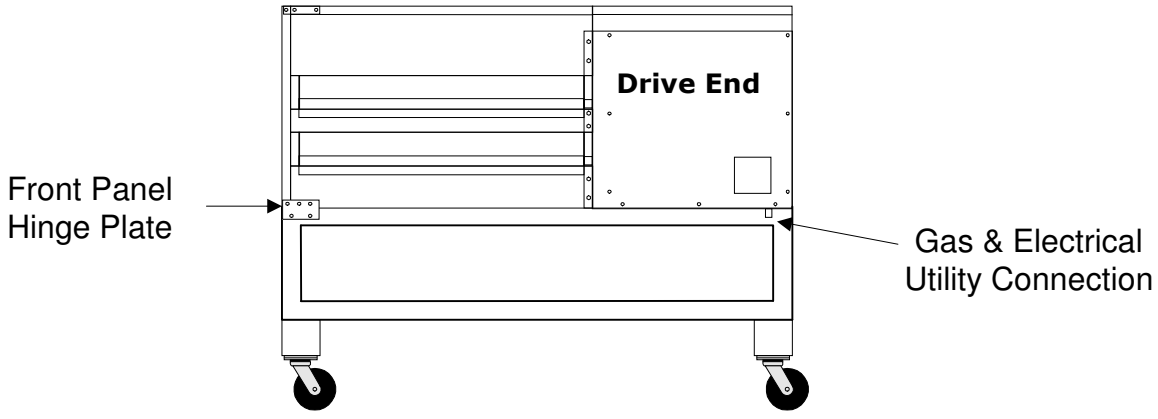
PLACE HEAT SHIELD ON DOOR PINS BETWEEN DOOR SIDE AND HINGE. UNLATCH ONE DOOR LATCH AT A TIME TO SECURE THE HEAT SHIELD TO THE OVEN.

CAUTION: UNLATCHING BOTH LATCHES AT THE SAME TIME MAY CAUSE DOOR TO FALL RESULTING IN BODILY INJURY.

UTILITY SERVICE AND MOUNTING PLATE LAYOUT
SINGLE OVEN



REAR VIEW - SINGLE STACK



RIGHT END VIEW

FIGURE C1

Rev. 2/03

UTILITY SERVICE AND MOUNTING PLATE STACK CONFIGURATION

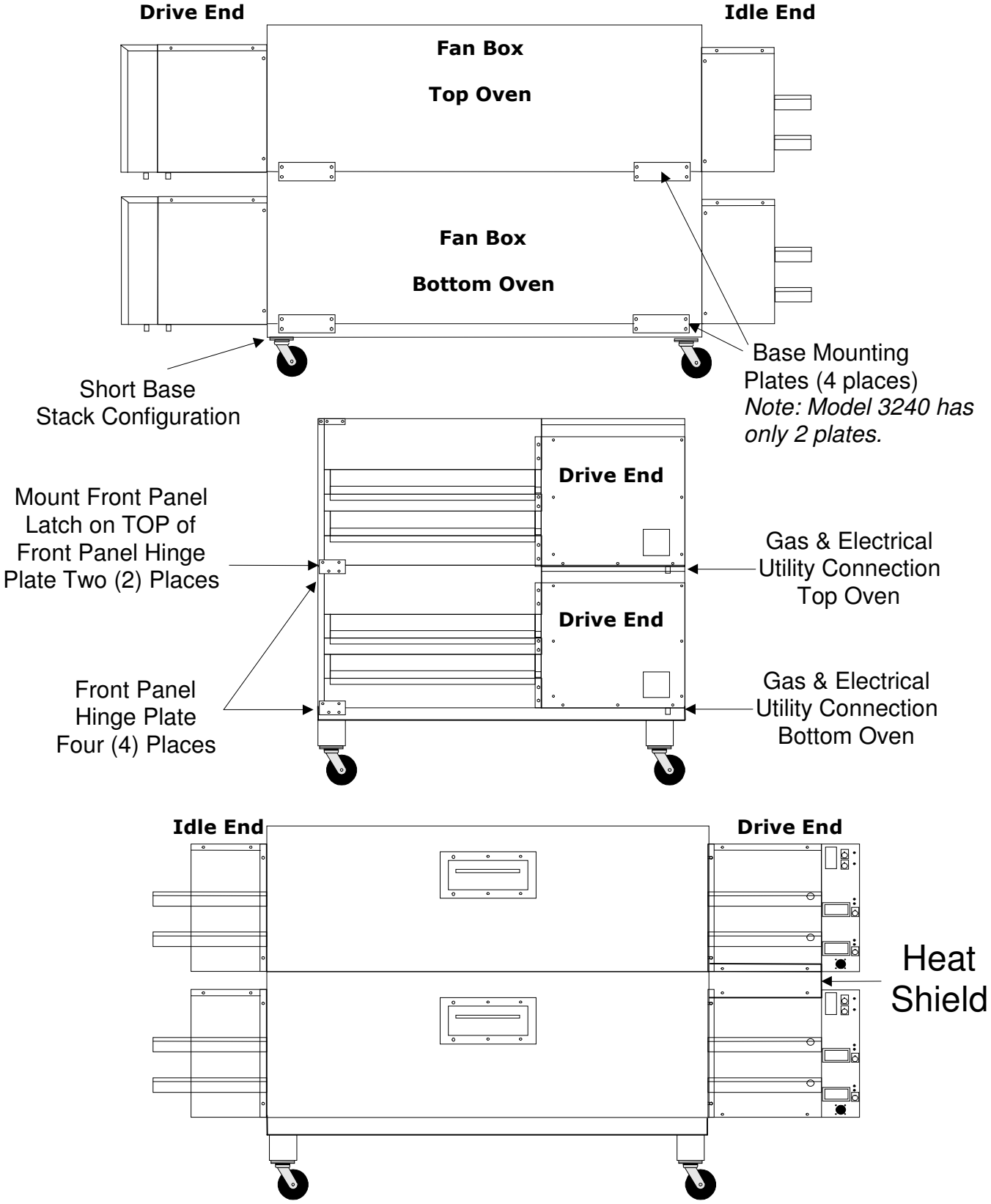


FIGURE C2

Rev. 8/1/00
Not to Scale

VENTILATION REQUIREMENTS

Lincoln X-2 conveyor ovens are designed for use with a ventilation hood, which conforms to local and national building and fire codes.

UNITED STATES AND CANADA

THE CUSTOMER IS RESPONSIBLE FOR MAKING SURE ADEQUATE VENTILATION IS AVAILABLE AT THE INSTALLATION.

MASSACHUSETTS: In compliance with NFPA 54 Section 10.3.5.2 this unit must be installed with a ventilation hood interlock that prevents the unit from operating when the ventilation hood is off.

Contact the following for assistance in locating a certified ventilation consultant in the United States, Canada and Australia:

National Environmental Balancing Bureau (NEBB) 301-977-3698
Associated Air Balancing Council (AABC) 202-737-0202

AUSTRALIA

Refer to Standard AS 5601. This standard specifies the requirements for piping, flueing, ventilation and appliance installation associated with use of or intended use of fuel gases. The requirements of AS 5601 are to be used in conjunction with, but do not take precedence over, any statutory regulations that may apply in any area.

CANOPY VENTILATION GUIDELINES

The owner is responsible for proper ventilation according to local codes and the unique characteristics of each installation. Because codes vary greatly from region to region, it is impossible to offer a single recommendation for all installations.

Consult local officials and a Heating, Ventilating and Air Conditioning (HVAC) specialist before investing in a ventilation system. There are many variables to consider such as kitchen layout, HVAC sizing, different air pressure, utility costs and structural requirements which must be taken into account in order to provide a safe, comfortable environment for customers and employees.

If a canopy-style hood is selected, the hood should extend past the front of the oven by at least six (6) inches and each end of the conveyor by six (6) inches. Figure D (Page 28) is an illustration provided to aid in designing and installing a proper ventilation system. The hood should draw enough air to capture all heat losses and products of combustion.

Make up air should be supplied by a system that is separate from the exhaust fan and balanced in conjunction with the HVAC. Proper balancing of the input/make up air and the output/exhaust air will result in an energy efficient method of eliminating oven heat and combustion gases with minimal effect on the HVAC system.

General guidelines are:	**SINGLE 3240**	**STACKED 3240**	**SINGLE 3262, 3270**	**STACKED 3262, 3270**
	2000 CFM	5800 CFM	4500 CFM	3800-4500 CFM

SMOKE CANDLE TEST (UNITED STATES AND CANADA)

The smoke candle test is used to test the oven's ventilation system. The ventilation system should capture all of the smoke produced by the smoke candle. The test must be performed by a qualified service person as part of the start-up. The test should also be performed as part of the annual maintenance checkout, or whenever ventilation problems are suspected. Smoke candles are available from your local Authorized Service Agency.

In order to perform the test, the oven and ventilation system must be fully operational. The test should be performed on the lower deck of a double deck installation. The test must be performed with a smoke candle rated at less than **1000 CFM** with duration of **30 seconds.** The candle must operate in **500°F (260°C)** temperatures. The oven must be operating at a temperature of **500°F (260°C**) with the conveyor turned **OFF**. The ventilation system (including make-up air) must be turned **ON.**

Place the smoke candle on a solid pan, light the fuse, and slide the pan on the bottom conveyor to the center of the oven. Note the smoke pattern coming from the conveyor openings. The ventilation system must capture at least **80%** of the smoke from the oven.

If the ventilation system fails to capture at least 80% of the smoke, **DO NOT** operate the unit(s) until the ventilation system has been adjusted to pass the test. Serious injury can result from the build-up of non-vented combustion gases.

MINIMUM SPACING REQUIREMENTS FOR
CANOPY-STYLE HOOD

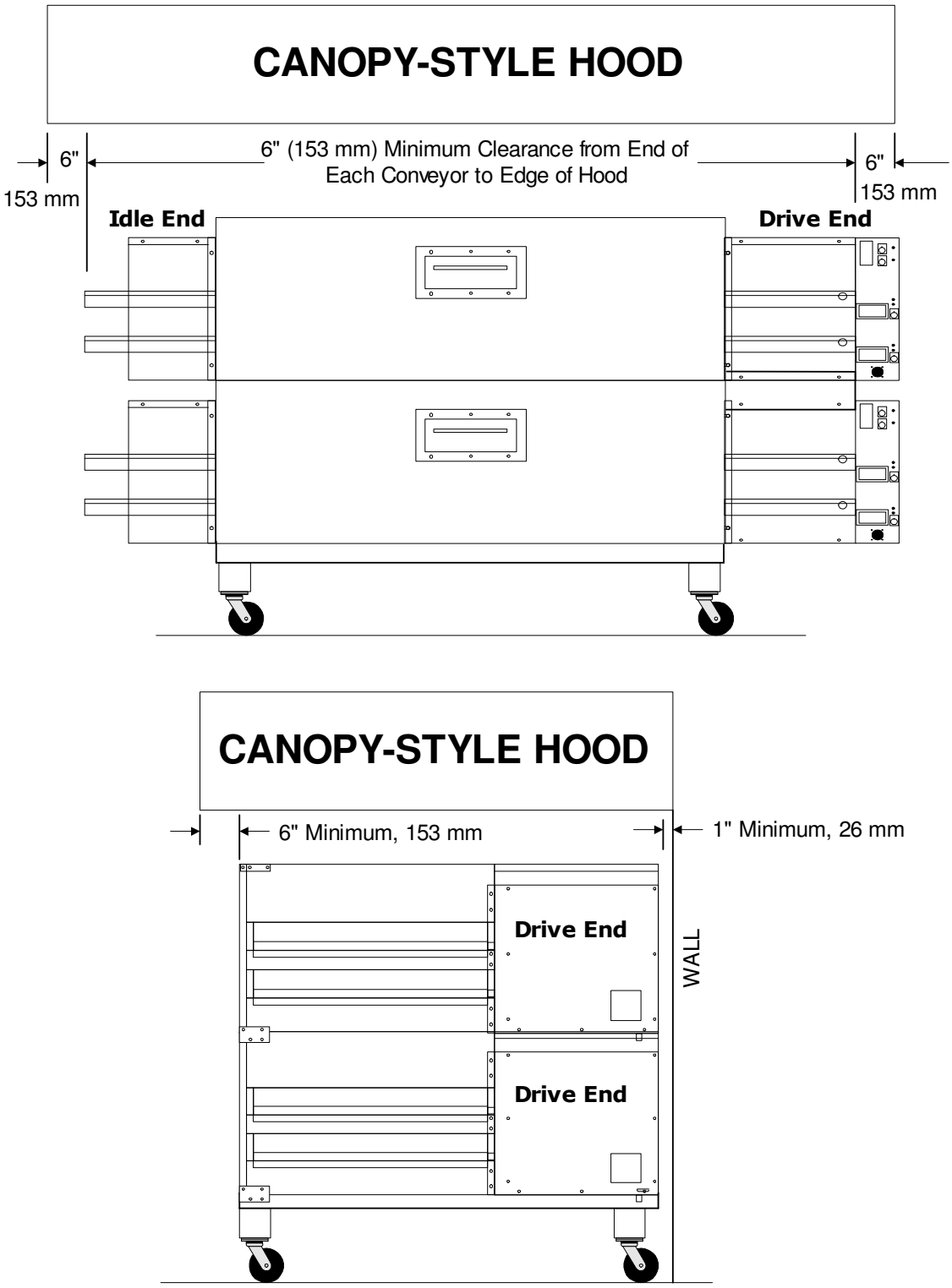


FIGURE D

Rev. 12-19-02

INITIAL START-UP (UNITS WITH ANALOG CONTROL BOARD)

Now that the oven has been installed, the unit should be tested to ensure that it is operating correctly. Use the following start-up procedure.

1. Remove all literature and combustible materials from the interior and exterior of the unit.
2. Make sure the restraint is connected.
3. Verify proper spacing around the oven.
4. Open the manual shut-off valve.
5. Verify proper gas pressure.
6. Check for gas leaks.
7. Verify proper voltage and phase.
8. Verify blower shaft rotation (CLOCKWISE).
9. Verify conveyor direction.
10. Check exhaust hood performance with smoke candle test.

CONTROL FUNCTIONS (UNITS WITH ANALOG CONTROL BOARD)

The temperature control is located at the top of the control panel (see Figure B – Page 10). This controls temperature in much the same way as a residential thermostat controls a furnace.

BLOWER AND BURNER SWITCHES (UNITS WITH ANALOG CONTROL BOARD)

Two (2) switches are located next to the temperature control. The upper switch controls the main blower fan and the lower switch controls the burner.

FUSES (UNITS WITH ANALOG CONTROL BOARD)

All fuses are located next to the component they control. Fuses F7 and F8 are located adjacent to the main blower switch and burner switch, respectively.

Fuses F8 and F11 are located next to the upper conveyor time controller while fuses F13 and F15 are located next to the lower conveyor time controller.

Regardless of the fuse location on the control panel, they are all 2.0 AMP and protect the following components:
F8 - Two (2) amp fuse for the burner
F7 - Two (2) amp fuse for the main fan
F9, F11, F13 & F15 Two (2) amp fuses to protect the conveyor controllers
F10, F12, F14 & F16 Two (2) amp fuses to protect the conveyor motors
F10, F12, F14 & F16 One-half (.5) amp fuses to protect the conveyor motors **(as of 6/14/05)**

CONVEYOR CONTROLS (UNITS WITH ANALOG CONTROL BOARD)

Below the temperature control is a pair of conveyor control/displays. Pressing and holding the “up” arrow will increase the time displayed and result in products staying in the oven longer (the belt slows down). Pressing and holding the “down” arrow will decrease the time displayed and result in product staying in the oven for a shorter amount of time (the belt speeds up).

The minimum belt time is 2:15 minutes and the maximum time is 16:00 minutes. Contact Lincoln if bake times below or above these limits are required. A switch is located to the right of each conveyor time controller which is used to turn the conveyors on and off. The conveyors can be turned off during slack times to extend conveyor life.

These controls display the time it takes for the leading edge of a pan to enter the oven until the same leading edge exits the oven. This is called “belt time.” Most operators will wait until the trailing edge of the pizza completely exits the oven before it is removed. The amount of time required for a pizza to enter, pass through, and completely exit an oven is often called “time of delivery.”

The oven is equipped with an automatic cool-down circuit. The fan(s) will continue to run for approximately 30 minutes after the fan switch is turned off to allow the oven to cool. This is a TIMED FUNCTION and will turn off the blower motor automatically. DO NOT UNPLUG THE OVEN DURING THIS TIMED SHUT DOWN PERIOD OR SERIOUS DAMAGE MAY OCCUR TO THE UNIT. Unplugging the unit during the timed cool-down period will void the warranty.

OVEN START-UP INSTRUCTIONS (UNITS WITH ANALOG CONTROL BOARD)

1. Turn the oven **FAN** switch **"ON."**

2. Adjust the temperature controller set point to desired temperature.

3. Turn the **BURNER** switch **"ON."**

4. Observe indicated temperature for one minute. The temperature should rise after **30 – 45 seconds**. A slight **"ticking"** noise is normal during this time.

5. If the burner does not ignite, turn the burner switch off, wait one (1) minute and then repeat steps 1 – 4. The amber light (located in the upper left-hand corner of the analog temperature control OR the red LED on digital temperature controls) will illuminate when the temperature control is calling for heat.

6. After the burner fires, turn the **CONVEYOR** switch(es) **"ON." DO NOT** turn the conveyors **ON** until after the burner has fired.

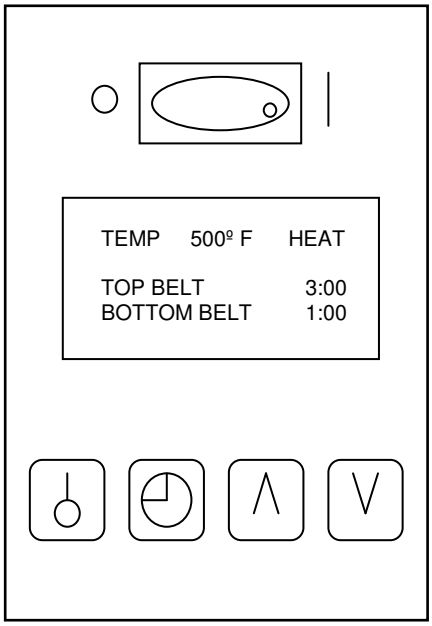
7. Adjust the conveyor belt speed by pressing either an **"up" or "down"** arrow until the desired time is displayed.

8. Allow about 15 minutes for the oven to reach the temperature set point and begin cycling before beginning to bake any products.

OVEN SHUT-DOWN INSTRUCTIONS (UNITS WITH ANALOG CONTROL BOARD)

THIS UNIT IS EQUIPPED WITH AN AUTOMATIC COOL-DOWN CIRCUIT. THE MAIN FAN WILL CONTINUE TO RUN FOR 30 MINUTES AFTER THE OVEN'S FAN SWITCH IS TURNED TO THE OFF POSITION.

1. Turn the **CONVEYOR** switch(es) **"OFF."**
2. Turn the burner switch **"OFF."**
3. Turn the **FAN** switch **"OFF."**
4. The main blower fan will run for approximately 30 minutes after the fan switch has been turned to the **"OFF"** position.



OVEN START-UP INSTRUCTIONS (UNITS WITH PUSH BUTTON CONTROL BOARD)

1. Turn oven on. After the oven is turned on it is in cooking mode. To set the time and temperature you must be in programming mode.

2. To get to program mode, press and hold the time and temperature buttons for approximately 6 seconds. While pressing the buttons the display will say “Hold Key and Wait.” The display will then say “Please Release” after the buttons have been held long enough. After you release the buttons you will be in programming mode.

3. The display will say “Set Point Temperature or Time to Select Function.” If no buttons are pressed within 4 seconds the display will revert back to cooking mode. It will automatically save the last settings that were entered before reverting to cooking mode.

4. To set the temperature, press the temperature button. The set point temperature will be displayed and the temperature may be increased or decreased by pressing the up or down arrows.

5. To set the belt time, press the time button. The display will indicate which belt is being set. Press the up and down arrows to increase or decrease time. Press the time button again to toggle between belts.

6. To save settings and return to cooking mode leave the control alone for 4 seconds and it will revert to cooking mode.

TO TURN A CONVEYOR OFF OR BACK ON (PUSH BUTTON CONTROL BOARD)

1. When the oven is turned on all belts will automatically begin running. To turn one belt off, press and hold one of the buttons.

2. While pressing the button the display will show which belt is being turned off. You will need to continue holding the button for approximately four seconds.

3. The display will show “Please Release” when it is time to let go of the button. The belt will turn off.

4. To turn the belt back on, press and hold the same button that you did before.

OVEN SHUT-DOWN INSTRUCTIONS (PUSH BUTTON CONTROL BOARD)

THIS UNIT IS EQUIPPED WITH AN AUTOMATIC COOL-DOWN CIRCUIT. THE MAIN FAN WILL CONTINUE TO RUN FOR 30 MINUTES AFTER THE OVEN'S FAN SWITCH IS TURNED TO THE OFF POSITION.

1. Turn the **ON/OFF** switch to the **"OFF"** position.
2. The main blower fan will run for approximately 30 minutes after the ON/OFF has been turned to the **"OFF"** position.

GENERAL RULES FOR BAKING QUALITY

Obtaining a properly baked product is a function of the baking medium (pan vs. screen), a product's preparation and pre-bake temperature, bake time and bake temperature. If the product is improperly prepared (using more ingredients, such as pizza toppings, than specified) it will not bake properly based on a proven time and temperature setting. Furthermore, toppings with high moisture content, such as vegetables, may require a longer bake time and/or higher temperature than a plain cheese pizza. In summary, the mass of the product, along with the different types of ingredients that create the mass, have a major impact on the final bake quality.

"Bake time," is defined as the amount of time a product is exposed in the oven's bake chamber. It can be measured by timing the leading edge of a pie pan from the time it enters the bake chamber to the time the leading edge exits the bake chamber.

"Bake temperature," is established by setting the oven's temperature control to the desired temperature that provides the desired bake. Generally speaking, you can apply the following rules:

Bake time affects a pie's doneness.
Bake temperature affects a pie's color (both top and bottom).

For instance, if a pie is baking at 480 degrees F, at a 7:30 bake time and the center is not completely done, hold the temperature constant and increase the bake time to allow heat more time to penetrate to the product's center. On the other hand, if the 7:30 bake time provides a pie with acceptable doneness, but the crust color is too light, increase the temperature in 10-degree increments until the desired top and bottom color is obtained.

OVEN CAPACITY

Oven capacity is a function of the conveyor belt width, bake chamber length, bake time and product diameter (or area). Another term often used is Time of Delivery (TOD). TOD is always greater than bake time as it measures the time from the leading edge entering the bake chamber until the time the trailing edge exits the bake chamber.

ELECTRIC SHOCK HAZARD

DURING NORMAL OPERATION, DO NOT ATTEMPT TO SERVICE THE UNIT UNTIL THE COOL-DOWN CYCLE IS COMPLETE AND THE FAN SHUTS OFF. DO NOT DISCONNECT THE POWER SUPPLY UNTIL THE COOL-DOWN CYCLE IS COMPLETE. PERSONAL INJURY AND DAMAGE TO THE OVEN COULD OCCUR FROM SHUTTING OFF POWER DURING THE COOL-DOWN CYCLE.

PREVENTIVE MAINTENANCE

Although this oven has been designed to be as trouble free as possible, periodic preventive maintenance is essential to maintain peak performance. It is necessary to keep the motors, fans, and electronic controls free of dirt, dust, and debris to insure proper cooling. Overheating is detrimental to the life of all components mentioned. The periodic intervals for preventive cleaning may vary greatly depending on the environment in which the oven is operating. You must discuss the need for preventive maintenance with your Authorized Service Company to establish a proper program. If there are any questions that the Service Company cannot answer, contact the Lincoln Foodservice Service Department.

CLEANING

MAKE SURE THE UNIT IS SHUT OFF BEFORE ATTEMPTING TO CLEAN. DO NOT USE POWER EQUIPMENT TO CLEAN THE EXTERIOR AND INTERIOR SURFACES. WE RECOMMEND UNPLUGGING THE UNIT PRIOR TO CLEANING. THE FOLLOWING SHOULD BE PERFORMED ON A WEEKLY BASIS.

The amount and frequency of cleaning will depend on oven use and operating conditions. Both the interior and exterior of the oven are made of stainless steel. Almost any cleaner will work and even steel wool or "scotchbrite" pads may be used. However, if steel wool is used, you may want to scrub in the direction of the grain to preserve the original appearance. The single piece conveyors and conveyor belts are also stainless steel and can be cleaned with a stiff wire brush.

Dismantling the oven is easy and fast. The removable front panel is held in place with two (2) quick-release latches located at the upper corners of the panel. Release the latches and the door can be lifted out of its normal position to provide access to the bake chamber interior. The single piece conveyors can then be removed from the front. No disassembly of the conveyors is required. NOTE: Insure conveyors are returned to their original location, as they are not interchangeable from top to bottom.

When disassembling the oven for cleaning, note the orientation of the air return ducts and air fingers. Reinstalling these components upside down and in the wrong position is possible, but unlikely as each finger is labeled with a number by actually grinding this number on the end of the finger. The same number was also ground on the finger support angle in the finger's respective position.

All Lincoln X-2 Conveyor Ovens have return air ducts: upper, middle, and lower. As the return air ducts are not interchangeable, please not each location and install in reverse order. The bottom return air ducts are shorter than the upper and middle air ducts and thus can only be properly installed in the bottom.

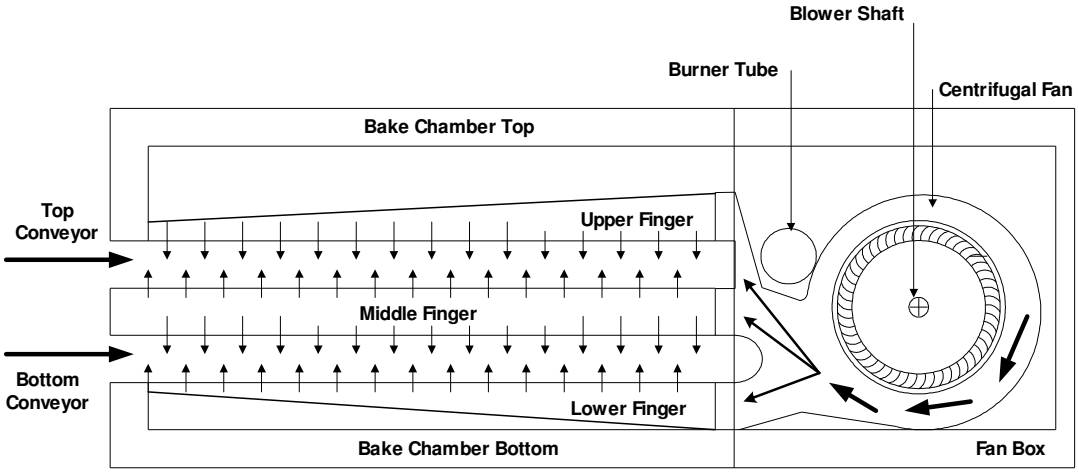
IMPINGER CONVEYOR OVEN CONCEPTS

The X-2 Conveyor Oven produced by Lincoln Foodservice Products, LLC, utilizes a revolutionary cooking concept, called “AIR IMPINGEMENT.” It provides exceptional baked food product quality in far less time than conventional devices on the market. The “AIR IMPINGEMENT” system directs a high velocity stream of heated air at the food product being baked. The blast effect penetrates the boundary layer of air encircling the product and heats the food more efficiently because the air concentrates heat on the product. Greater heat transfer rates, which result in products baking two to four times faster than conventional means, are possible with “AIR IMPINGEMENT.”

The “AIR IMPINGEMENT” process develops the high velocity air stream that draws super-heated air from the heat source. This air is directed through a plenum chamber to FINGERS, which have hundreds of focused jetports, that “IMPINGE” the heated air onto the product surface. The heated air is recycled to the heat source after striking the product, thus reducing energy consumption.

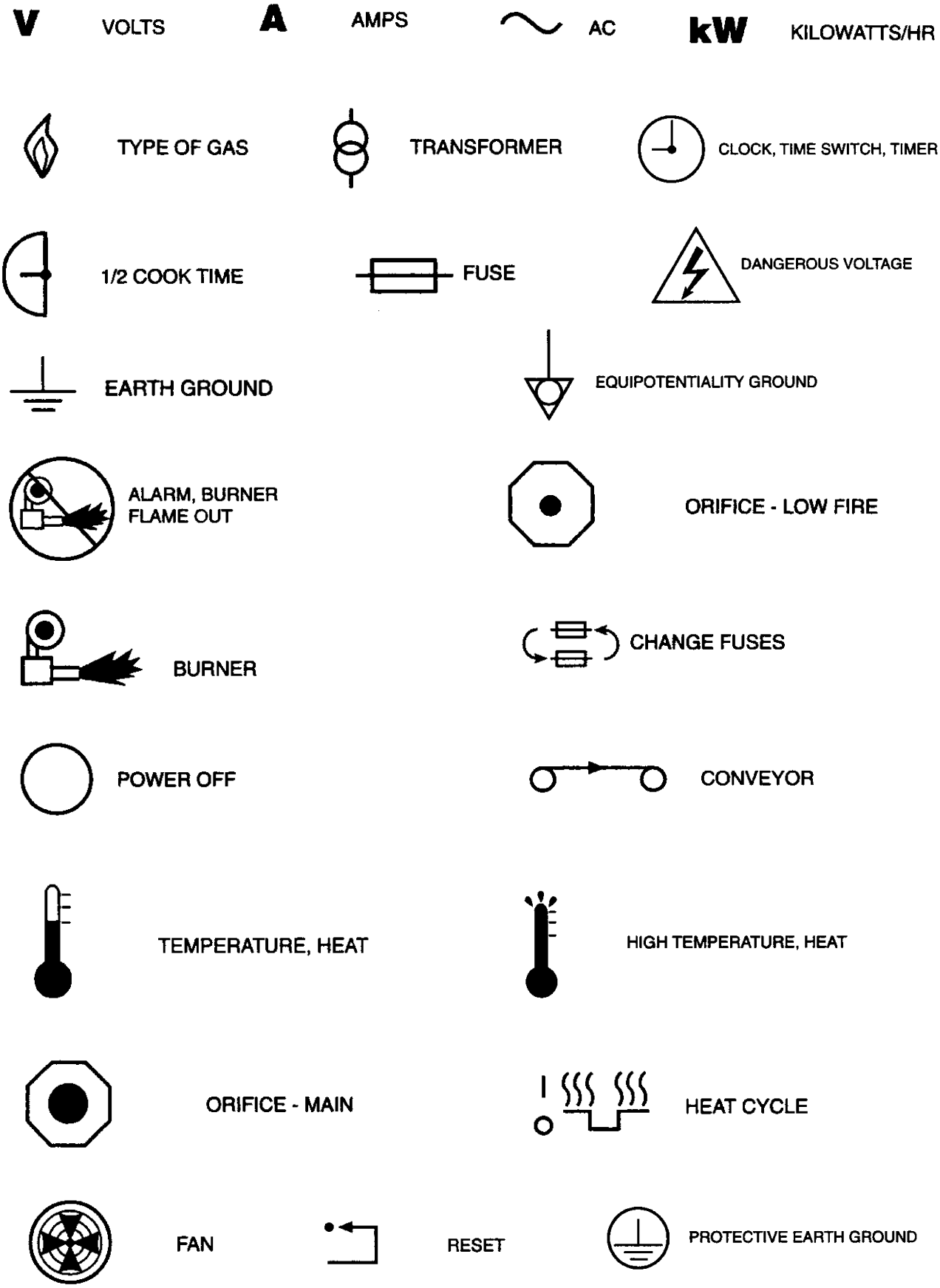
A variable speed conveyor system moves food products through the oven one after the other to improve product flow during the cooking process. The “AIR IMPINGEMENT” process is tolerant enough for sensitive food products and effects proper crisping and even browning of such products as they pass through the oven, because air is the medium that heats the food product.

AIR FLOW COMPONENTS

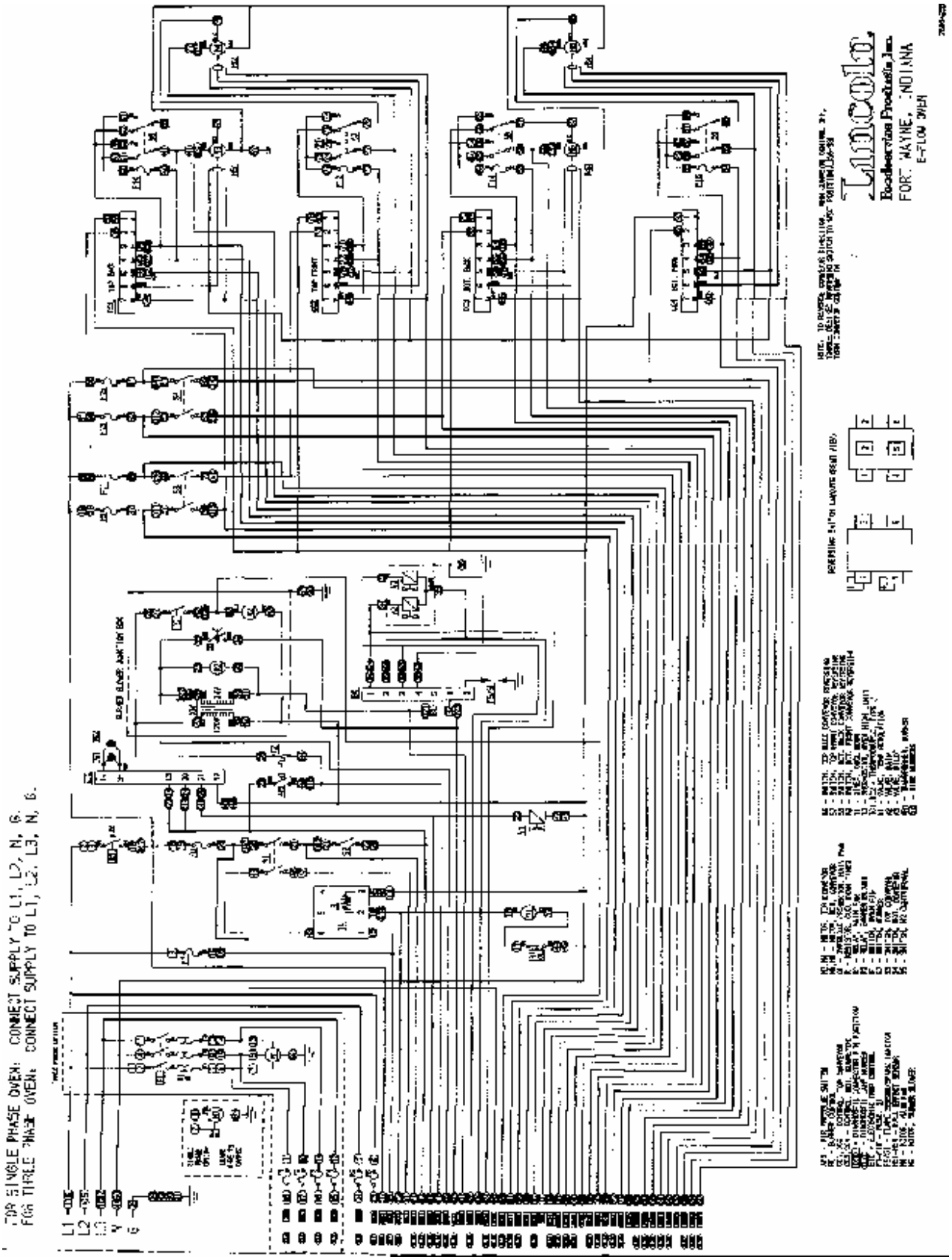


CROSS-SECTION
RIGHT END
VIEW

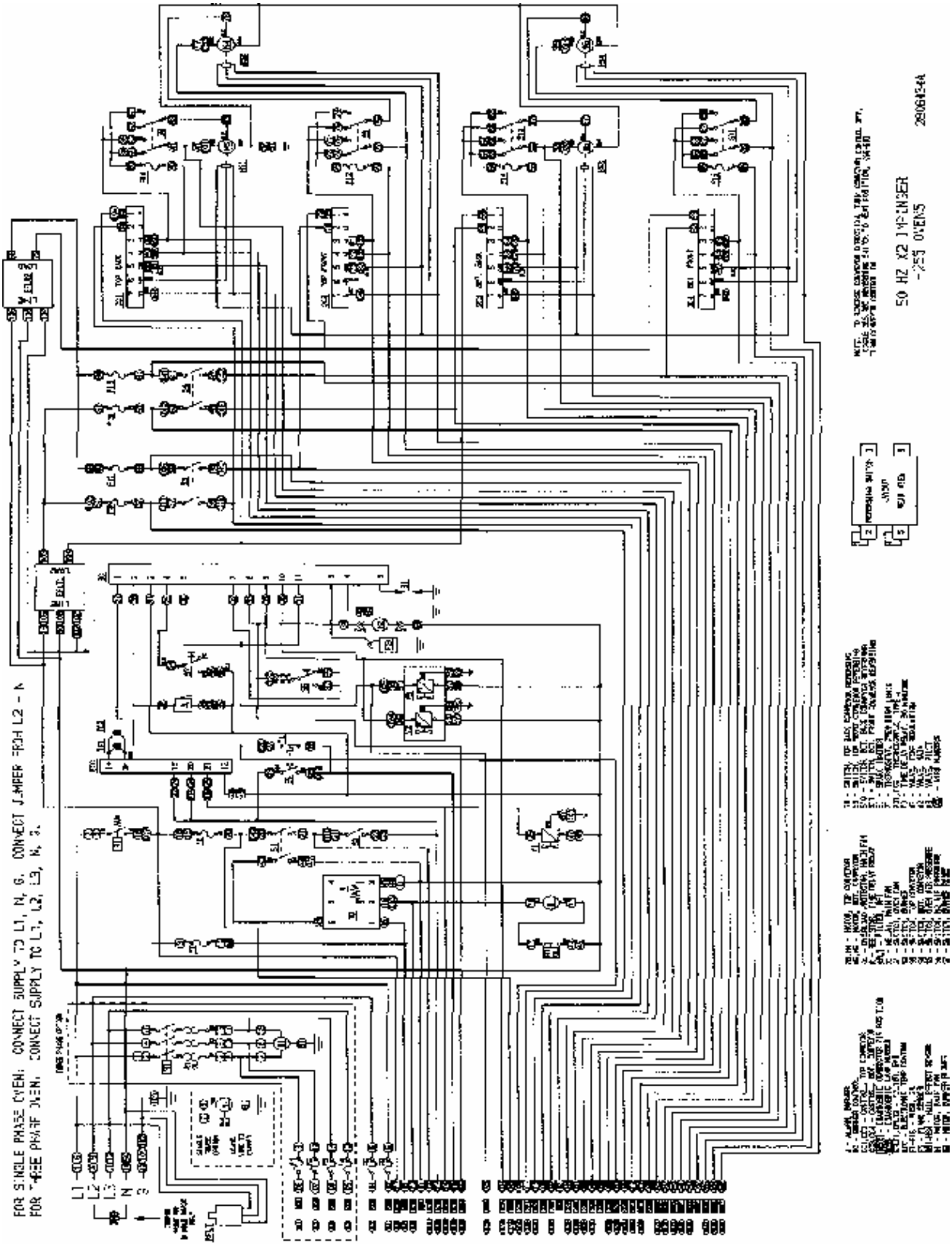
LABEL DEFINITIONS



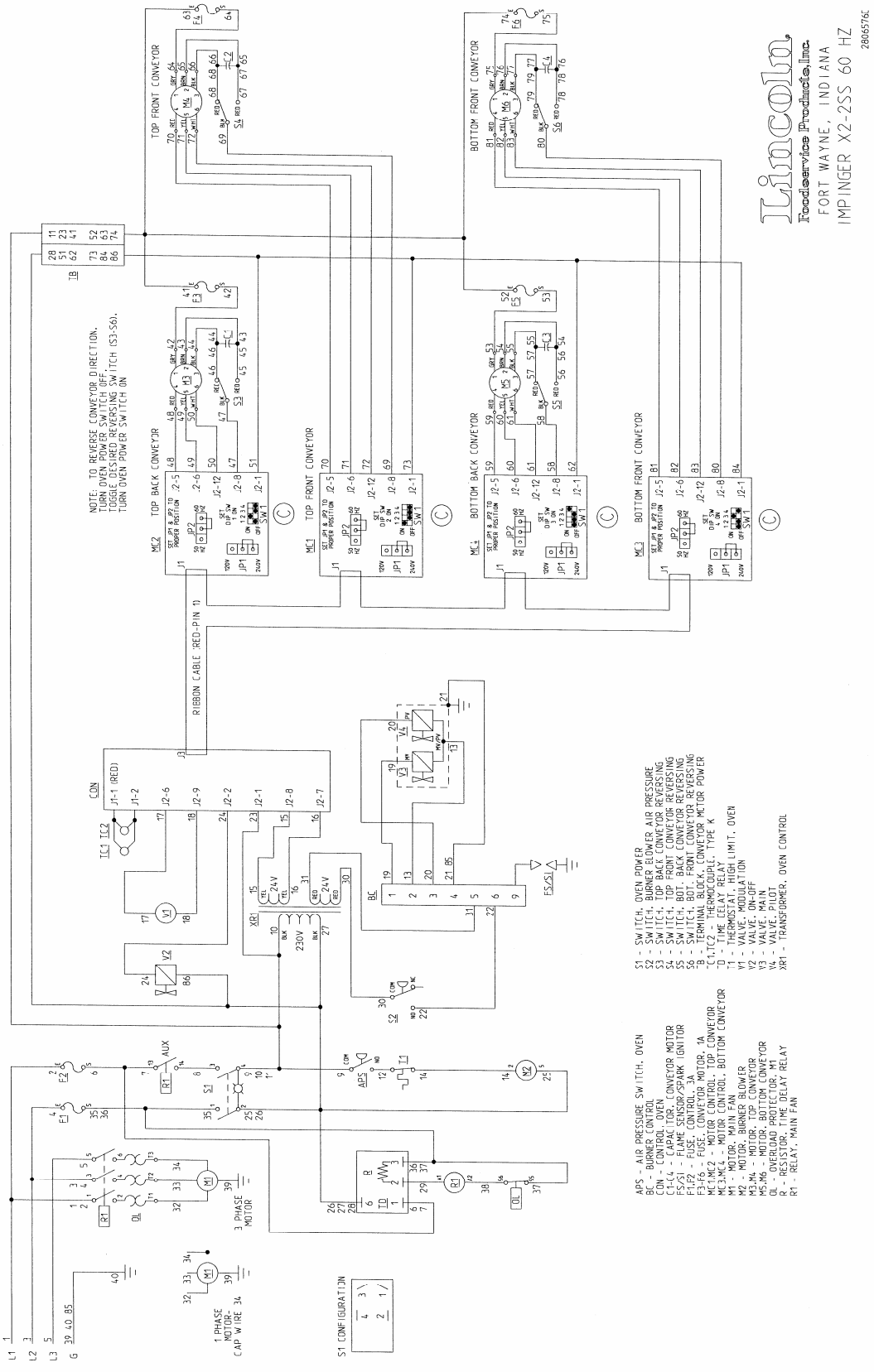
SCHEMATIC - UNITED STATES & CANADA MODELS WITH ANALOG CONTROL BOARD



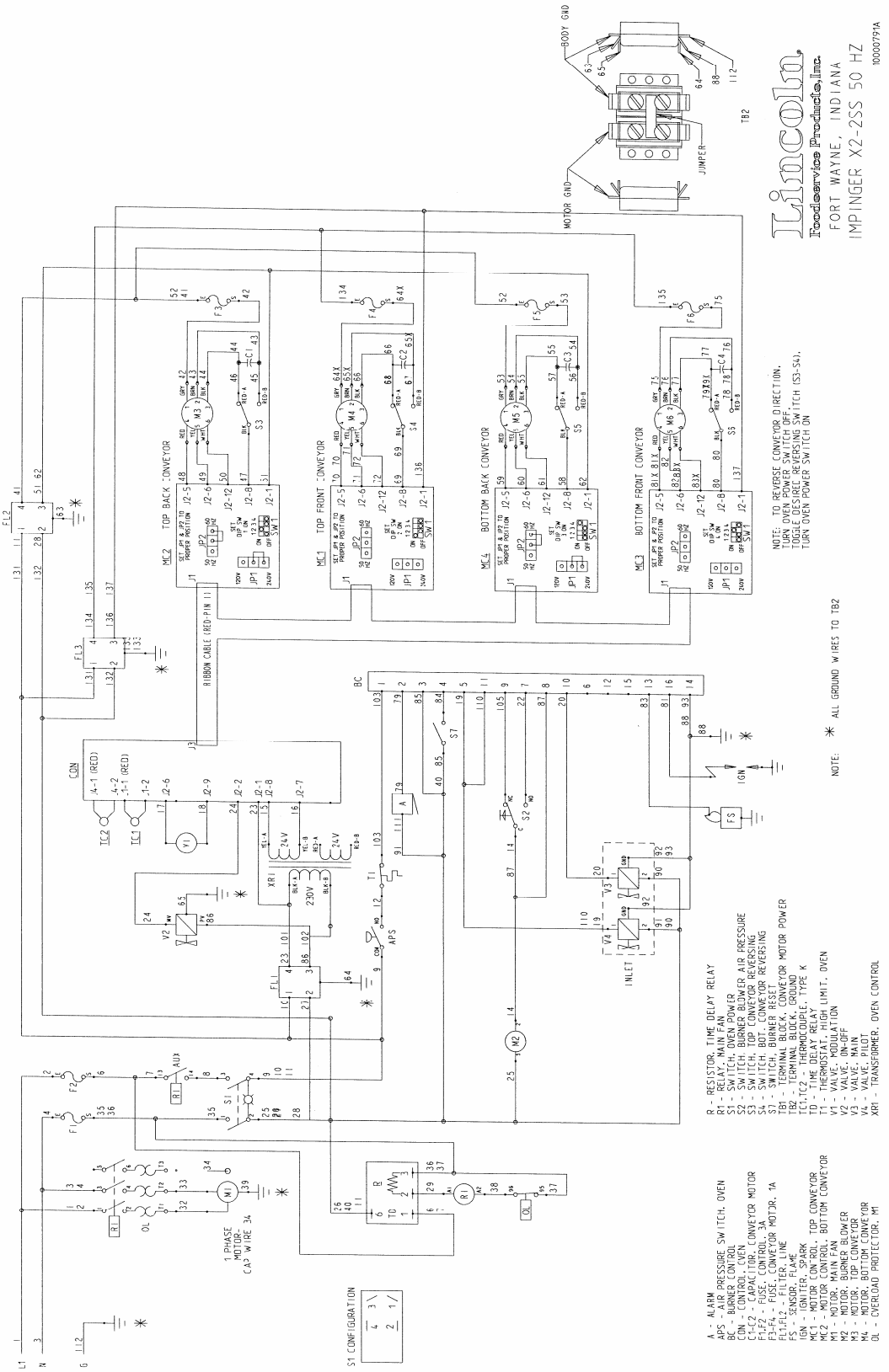
SCHEMATIC - INTERNATIONAL MODELS WITH ANALOG CONTROL BOARD



SCHEMATIC - UNITED STATES & CANADA MODELS WITH PUSH BUTTON CONTROL BOARD



SCHEMATIC DIAGRAM MODELS 3262-2, 3270-2 50 HZ.
WITH PUSH BUTTON CONTROLS



PARTS LIST
(WITH ANALOG CONTROL BOARD)

PART NUMBER	COMMON PARTS
405849-2EP	Conveyor Splice Kit
501201EP	Fuse, 2 Amp
501070EP	Blower Air Switch
4060275	Motor, Main Fan, 3 HP, 1 Phase
4060273	Motor, Main Fan, 3 HP, 3 Phase
390121	Overload, Motor
501100EP	Conveyor Control
501176MEP	Motor, Conveyor
501110EP	Hall Effect Sensor
9900273	Reversing Switch
390060	Switch, Contact
4030158	Timer, Cool Down
501085EP	Temperature Control
508202EP	Drive Belt, 31”
501090EP	Thermocouple, Type “J” 72
370117	Terminal Block
405849EP	Conveyor Belt – 15”
405830EP	Conveyor Belt – 30”
508103EP	Male Lovejoy Coupling
508120EP	Female Lovejoy
PART NUMBER	**U.S. & CANADA PARTS**
100192EP	Solenoid Valve
390044	Contactor, Motor
50150-5EP	Main Gas Valve
501250-6EP	Transformer
501250EP	Burner Control
PART NUMBER	**INTERNATIONAL PARTS**
370186	Temperature Regulation Valve
4050099	Contactor
4030152	Ignition Control
4090421	Connector, 5 Pin
370184	Filter, RFI
370180	Filter, EMI
369579	Buzzer Alarm
369368	Thermostat, Hi-Limit
369575	Air Pressure Switch (Dungs)
4030154	Valve, Gas Control, Nat Gas
4030155	Valve, Gas Control, Propane / Butane
369771	Switch, Burner Reset

PARTS LIST (60 Hz Model)
(WITH PUSH BUTTON CONTROL BOARD)

PART NUMBER	PARTS LIST
501070EP	Blower Air Switch
390068	Overload, Motor
370466	Timer, Cool Down
508202EP ***	Drive Belt, 31 Inch
390128	Drive Belt, 29 Inch
508103EP	Male Lovejoy Coupling
508120EP	Female Lovejoy Coupling
390079	Fuse Holder
369013	Fuse, 3A
390092	Fuse, 1A
369575	Blower Air Switch
390137	Motor, Main Fan, 3 HP. 1 Phase
390096	Motor, Main Fan, 3 HP. 3 Phase
390100	Contactor, Overload
390093	Gas Control Valve, Nat. Gas
390094	Gas Control Valve, L.P. Gas
390111	Temperature Regulation Valve
369393	Ignition Control
501250-1EP	Ignitor Assembly
390097	Burner Blower Motor
390086	Motor, Conveyor (3240-2) 60Hz
390085	Motor, Conveyor (3262-2, 3270-2) 60Hz
370359	Reversing Switch, Conveyor Motor
369432	Switch, On/Off
370364	Ground Lug
507712EP	Pulley, Motor, BK40
390095	Thermocouple, Type K, 72 inch
369368	Thermostat, Hi-Limit
405849EP	Conveyor Belt (15” wide belt) 3262-2 60Hz
390106	Conveyor Belt (15” wide belt) 3240-2 60Hz
390107	Conveyor Belt (15” wide belt) 3270-2 60Hz
390108	Conveyor Belt (32” wide belt) 3262-2 60Hz
390109	Conveyor Belt (32” wide belt) 3270-2 60Hz
405830-1EP	Conveyor Belt (32” wide belt) 3240-2 60Hz
390050	Bushing Assy. Conveyor
405900EP	Sprocket, Conveyor
390089	Control, Main
390090	Control, Conveyor
370360	Capacitor, Conveyor Motor
507500EP	Bearing, Drive End
390063	Bearing, Idle End
390050	Bushing Assy., Dual Conveyor
390051	Bushing Assy., Single Conveyor
390105	Modulating Valve, Nat. Gas
390110	Modulating Valve, L.P. Gas

*** See warning notice on page 43 before ordering fan belt.

PARTS LIST (50 Hz Model)
(WITH PUSH BUTTON CONTROL BOARD)

PART NUMBER	PARTS LIST
369013	Fuse – 3A
390092	Fuse –1A
370342	Fuse Holder
508202EP ***	Drive Belt, 31 Inch
390128	Drive Belt, 29 Inch
370359	Reversing Switch
390100	Contactor
370466	Time Delay Module, 230 Volt
	Terminal Block 3 Pole
369368	Thermostat, Hi-Limit
369125	Terminal Block – 2 Pole
390084	Front Facia, Control Box
390085	Conveyor Motor
508120EP	Lovejoy Coupling – Female
508103EP	Lovejoy Coupling – Male
390088	Transformer 230 Volts AC
370541	On-Off Switch
390089	Control, Main
405900EP	Sprocket, Conveyor
370360	Capacitor, 230V Digital
390090	Control, Conveyor
501070EP	Air Pressure Switch
508202EP	Fan Belt (w/ BK 45 Pulley)
390059	Pulley, BK 45
	Motor, Main Fan, 3HP, 1 Phase (50 Hz)
	Motor, Main Fan, 3HP, 3 Phase (50 Hz)
369575	Air Pressure Switch
370396	Ignition Control
370364	Ground Lug
390095	Thermocouple, Type “K”
	Valve, Temperature Regulation
390105	Valve, Modulator (Nat.)
	Valve, Modulator (L.P.)
370405	Valve, Natural Gas 24V
	Valve, L.P. Gas
390076	Motor, Burner Blower
390068	Overload
507500EP	Bearing, Drive End
390063	Bearing, Idle End
390050	Bushing Assy., Dual Conveyor
390051	Bushing Assy., Single Conveyor
405849EP	Conveyor Belt (15” wide belt) 3262-2 50 Hz
390107	Conveyor Belt (15” wide belt) 3270-2 50 Hz
390108	Conveyor Belt (32” wide belt) 3262-2 50 Hz
390109	Conveyor Belt (32” wide belt) 3270-2 50 Hz

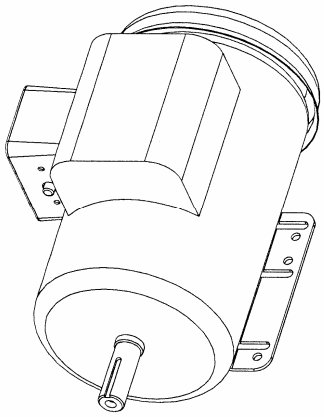
*** See warning notice on page 43 before ordering fan belt.

!! CAUTION !!

Please note that a model number change associated with the Baldor Main Fan Motor has been instituted. This change in motor model number also requires a change in the type of fan belt being used. Therefore, when replacing a fan belt it is important to note which type of motor is being used.

Use the following fan belt …	**when using this main fan motor…**
Gates 6929 (V-Belt, 21/32” x 29”) Lincoln Part # 390128	Motor, main fan, 3HP, 1 Phase (60 Hz Model Only) Vendor-35V087T356G1
	Motor, main fan, 3HP, 3 Phase (60 Hz Model Only) Vendor-35V426T676G1
	Motor, main fan, 3HP, 1 Phase (50 Hz Model Only) Vendor-35V424Q013G1
	Motor, main fan, 3HP, 3 Phase (50 Hz Model Only) Vendor-35V426Y886G1
Gates 6931 (V-Belt, 21/32” x 31”) Lincoln Part # 508202EP	Baldor Motor P/N M3161TA – Lincoln Production #4060274
	Baldor Motor P/N 35S270T356 – Lincoln Production #4060276

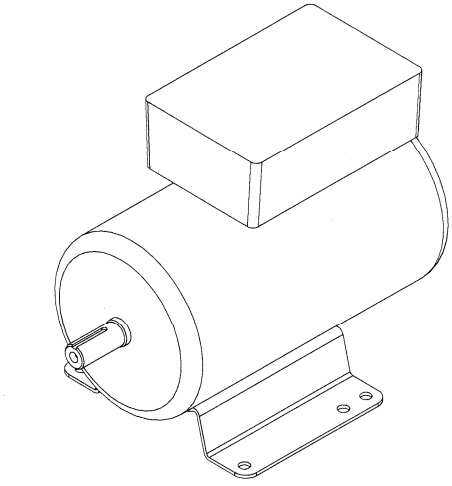
Baldor Motors:
M3161TA
35S270T356



This motor requires the following fan belt:

Lincoln Part # 508202EP
Dimensions: 21/32” x 31”

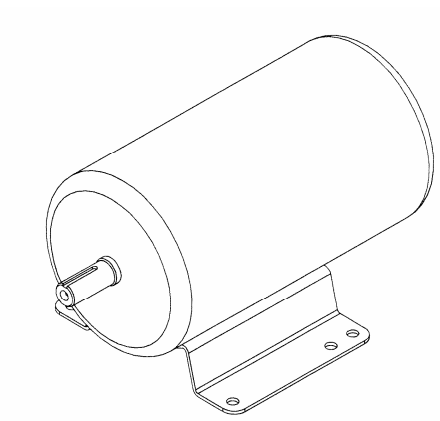
Baldor Motors:
35V424Q013G1
35V087T356G1



This motor requires the following fan belt:

Lincoln Part # 390128
Dimensions: 21/32” x 29”

Baldor Motors:
35V426T676G1
35V426Y886G1



This motor requires the following fan belt:

Lincoln Part # 390128
Dimensions: 21/32” x 29”

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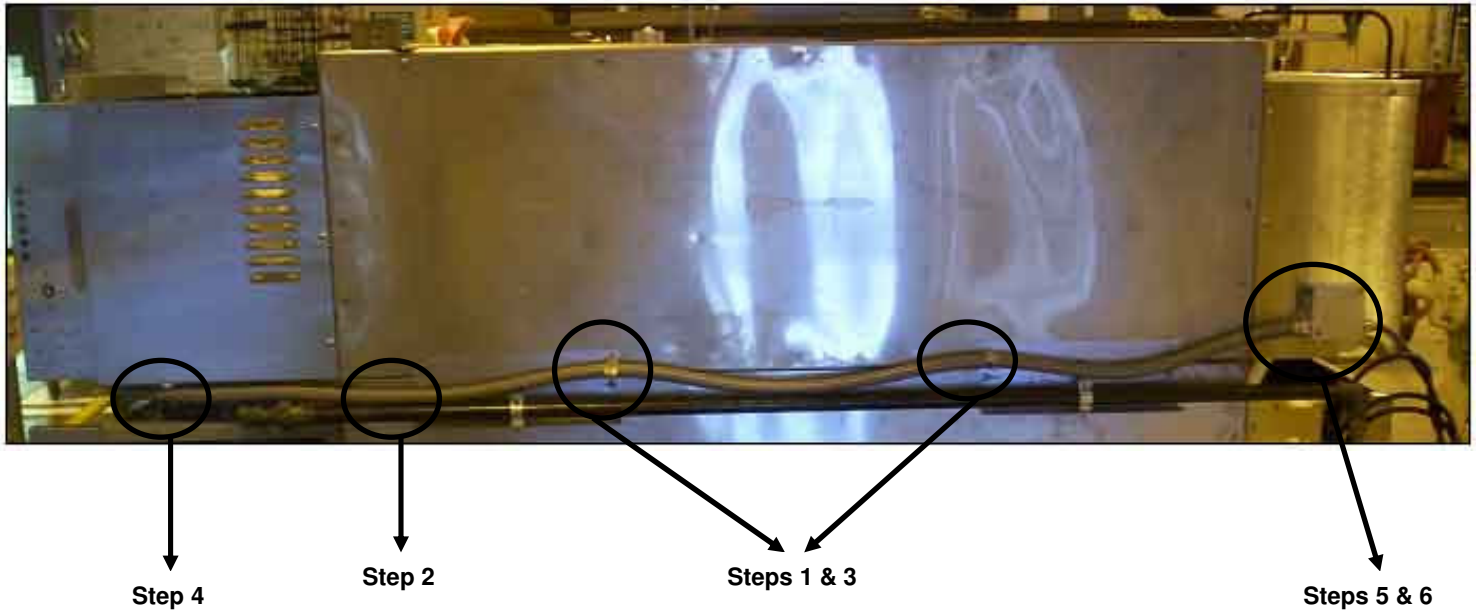
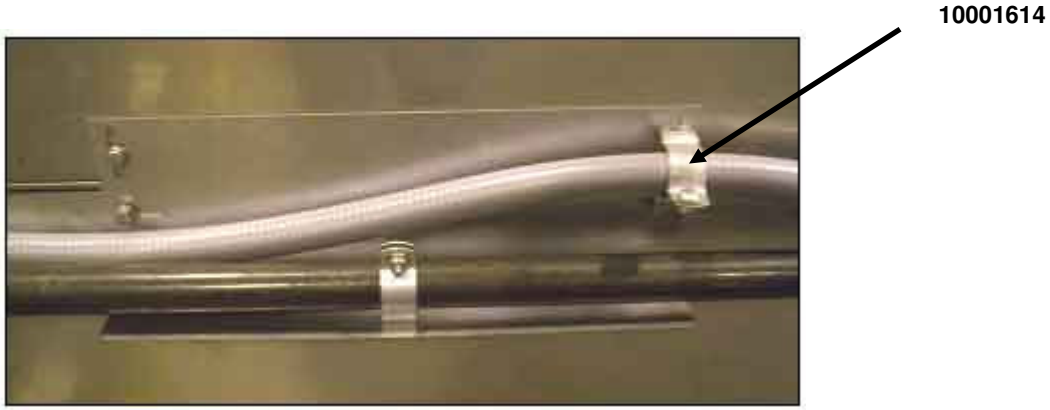
UTILITY EXTENSION KIT
INSTALLATION INSTRUCTIONS

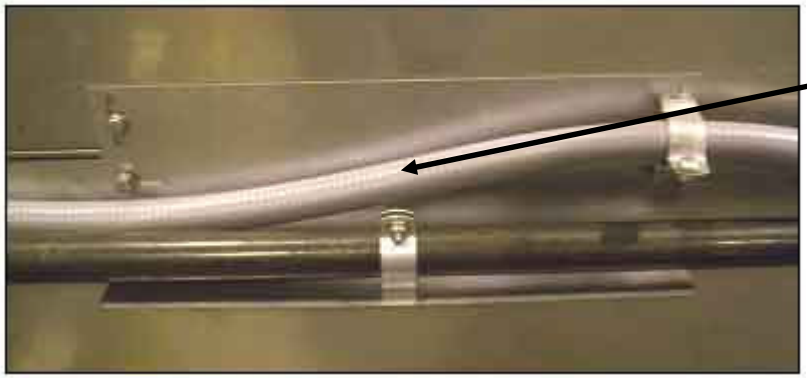
9432 ELECTRIC UTILITY KIT



1. **Attach two hanger clamps to oven back by unscrewing two oven-back bolts. Align clamps, re-insert bolts, and tighten.**

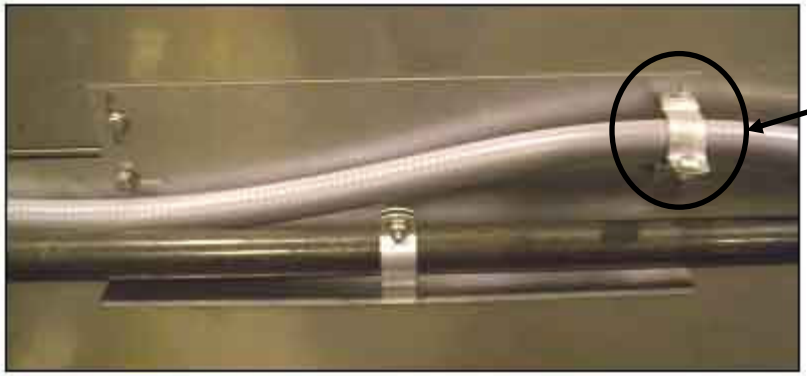


2. Fish cord into conduit.



293 cord inside 10001615 conduit

3. Using clamp assembly, attach conduit.

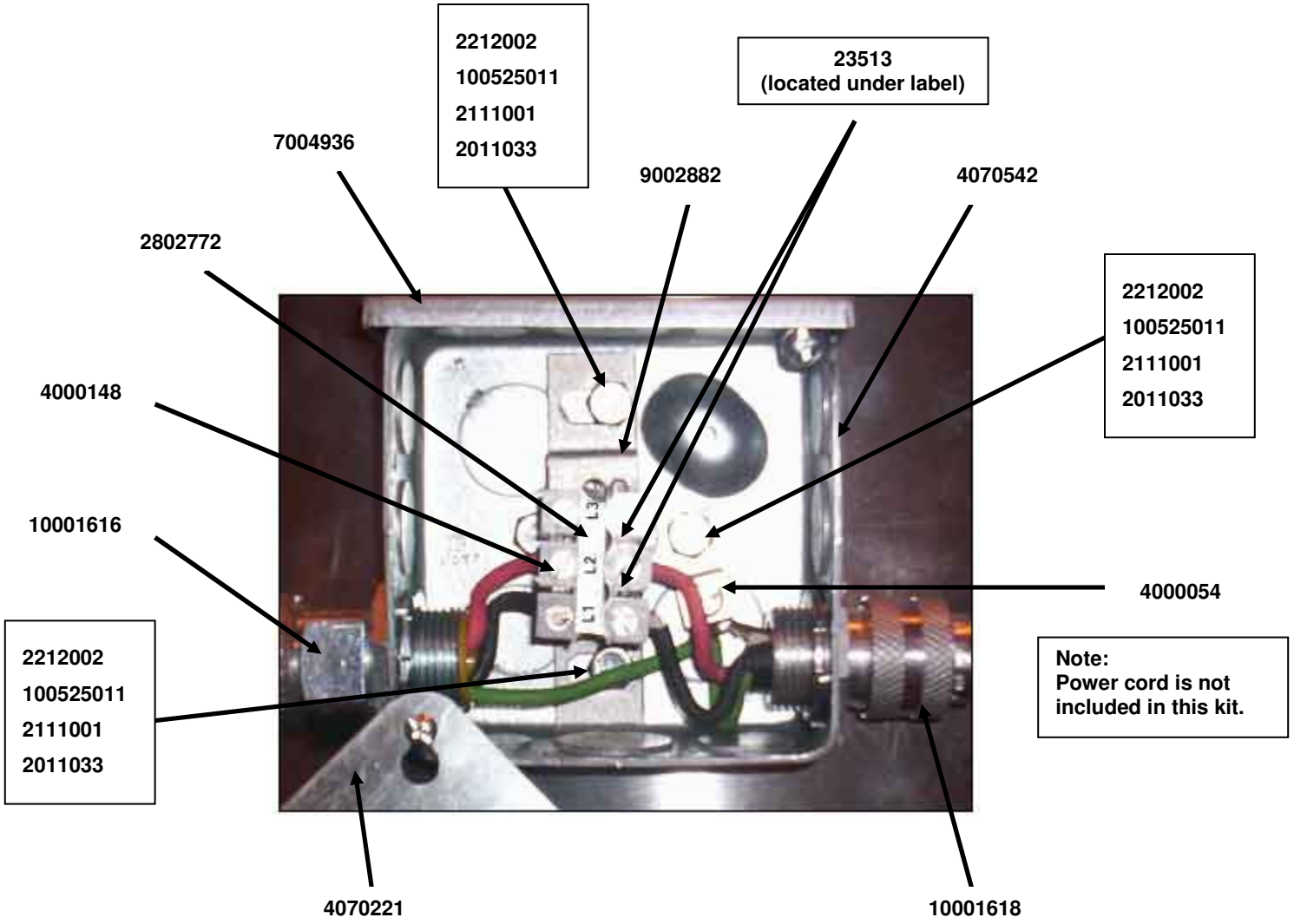


CLAMP ASSEMBLY
10001614
2011033
2212002
100525011
2111001

4. **Attach conduit to the X2 oven drive end control box and attach wiring to terminal block.**

5. **Drill holes and attach electrical box to idle end control box.**

6. Attach conduit and other parts to J-box and attach wiring to terminal block.



Electric Utility Kit Installation is now complete.

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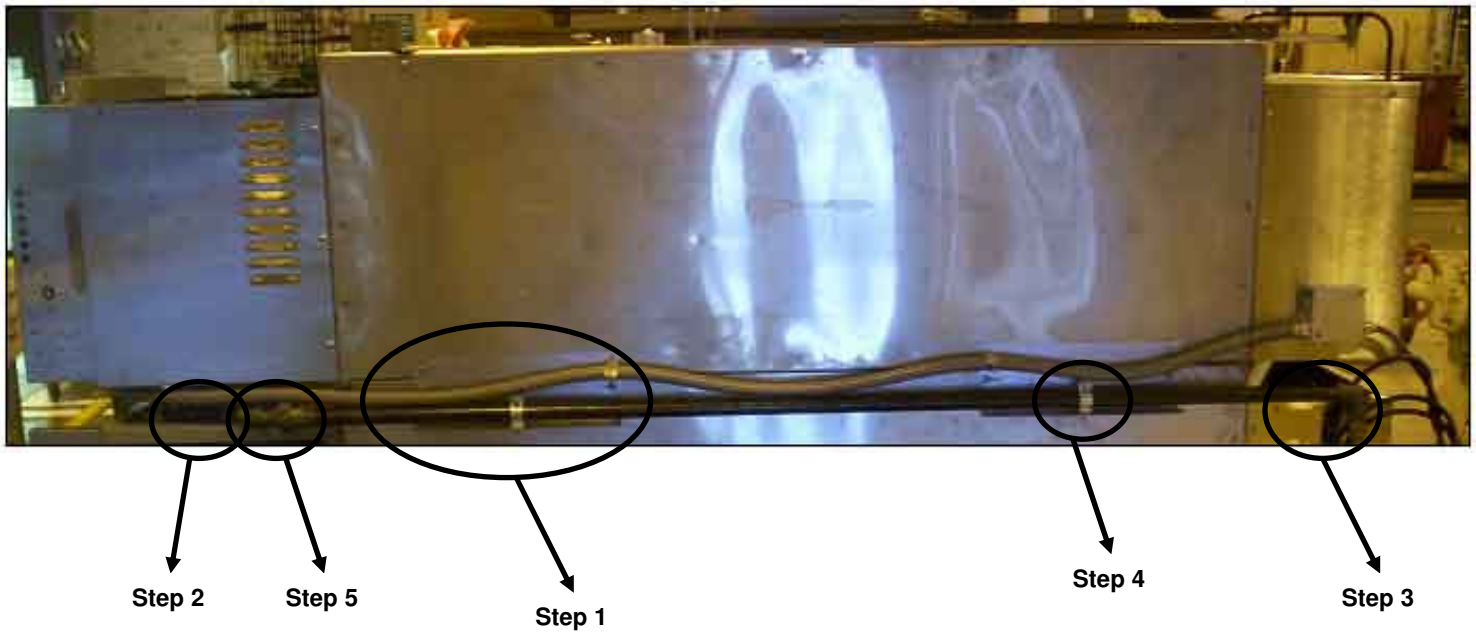
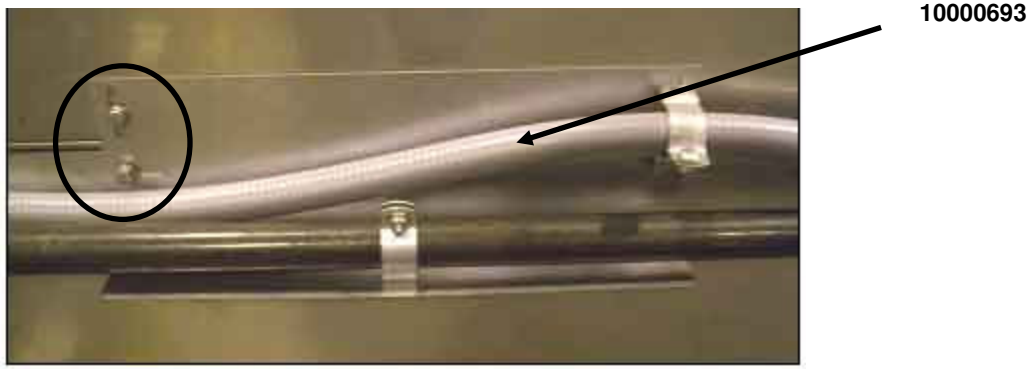
UTILITY EXTENSION KIT
INSTALLATION INSTRUCTIONS

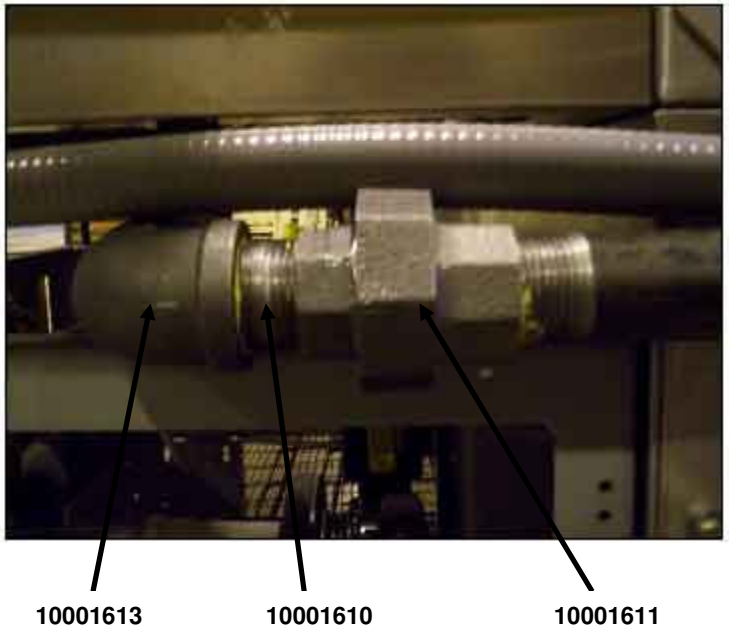
9431 GAS UTILITY KIT

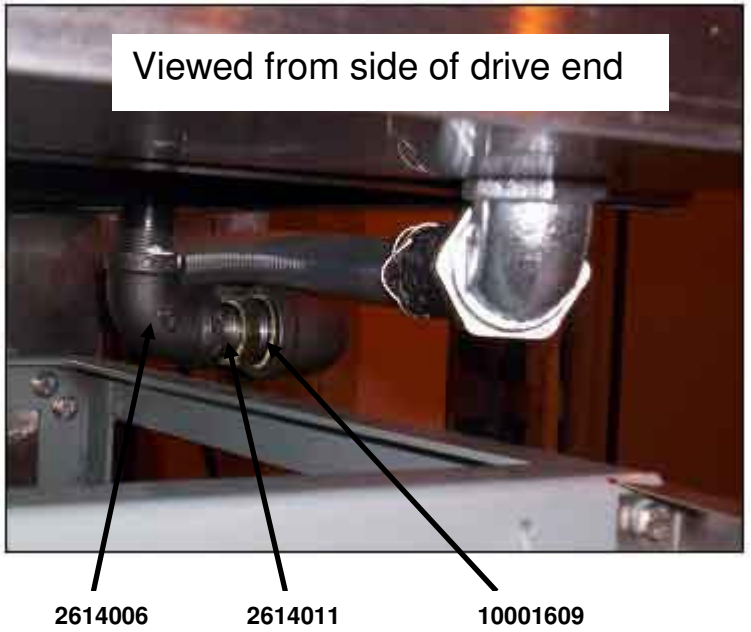


2. **Attach gas pipe brackets to oven by unscrewing bottom oven-back bolts. Align gas pipe brackets, re-insert bolts, and tighten.**

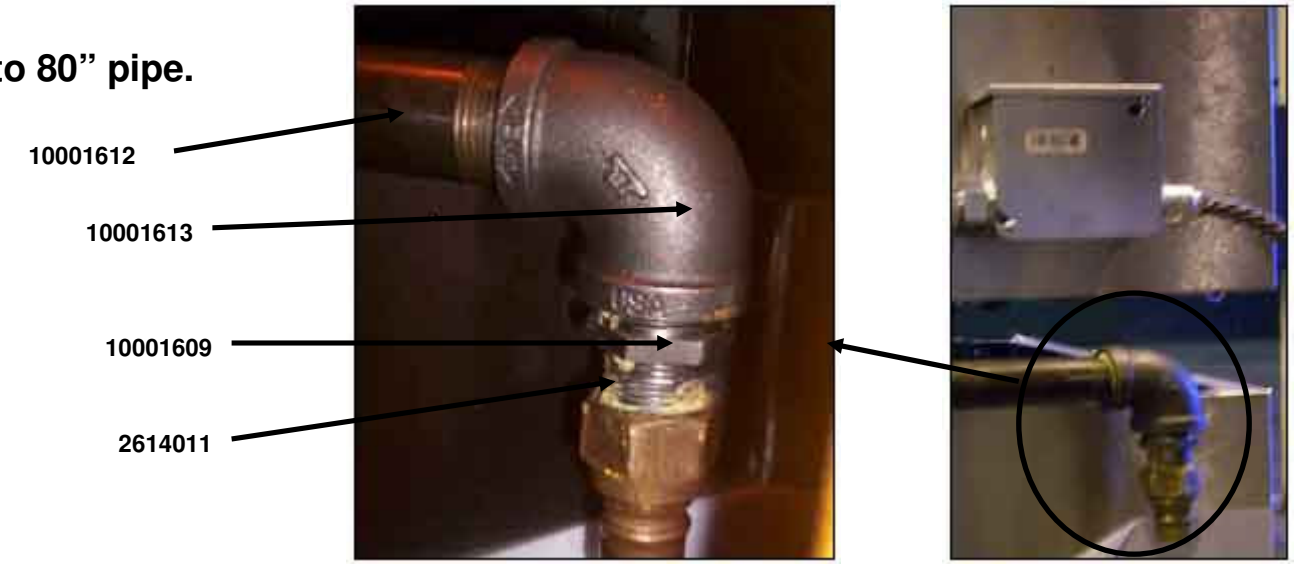


3. Attach gas piping to X2 oven gas inlet.

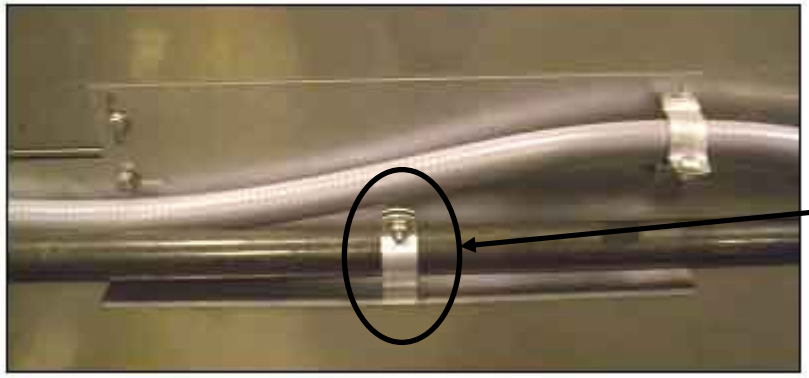




4. Attach piping to 80” pipe.

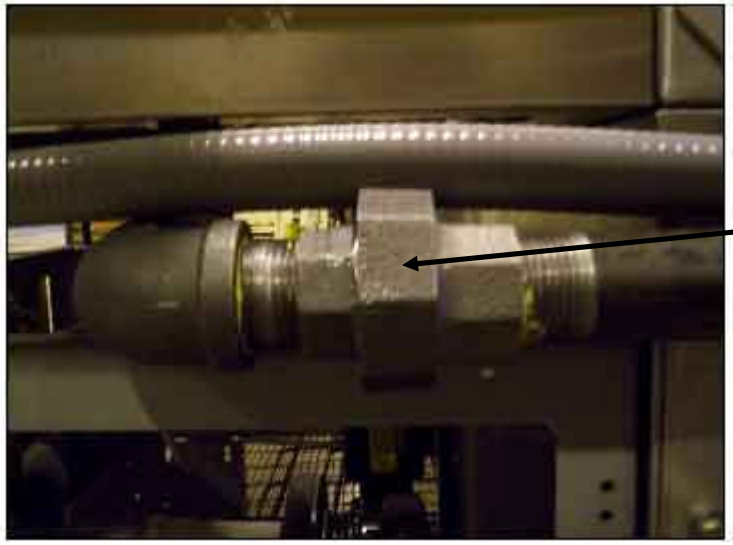


7. **Using clamp assembly, attach oven piping to gas pipe brackets.**



CLAMP ASSEMBLY
10001614
855114
2212002
100525011
2111001
2021028
2111001
100525011
2212002

8. **Tighten pipe union.**



10001611

Gas Utility Kit installation is now complete.

LIMITED WARRANTY FOR COMMERCIAL PRODUCTS

LIMITED WARRANTY

Lincoln Foodservice Products, LLC ("Lincoln") warrants this product to be free from defects in material and workmanship for a period of one (1) year from the date of purchase.

During the warranty period, Lincoln shall, at Lincoln's option, repair, or replace parts determined by Lincoln to be defective in material or workmanship, and with respect to services, shall re-perform any defective portion of said services. The foregoing shall be the sole obligation of Lincoln under this Limited Warranty with respect to the equipment, products, and services. With respect to equipment, materials, parts and accessories manufactured by others, Lincoln's sole obligation shall be to use reasonable efforts to obtain the full benefit of the manufacturer's warranties. Lincoln shall have no liability, whether in contract, tort, negligence, or otherwise, with respect to non-Lincoln manufactured products.

WHO IS COVERED

This Limited Warranty is available only to the original purchaser of the product and is not transferable.

EXCLUSIONS FROM COVERAGE

- Repair or replacement of parts required because of misuse, improper care or storage, negligence, alteration, accident, use of incompatible supplies or lack of specified maintenance shall be excluded
- Normal maintenance items, including but not limited to, light bulbs, fuses, gaskets, O-rings, interior and exterior finishes, lubrication, conveyor belt, motor bushes, broken glass, etc. adjustments and calibrations for temperatures, speed and air flows
- Failures caused by improper or erratic voltages
- Improper or unauthorized repair
- Changes in adjustment and calibration after ninety (90) days from equipment installation date
- This Limited Warranty will not apply to any parts subject to damage beyond the control of Lincoln, or to equipment which has been subject to alteration, misuse or improper installation, accidents, damage in shipment, fire, floods, power changes, other hazards or acts of God that are beyond the control of Lincoln
- This Limited Warranty does not apply, and shall not cover any products or equipment manufactured or sold by Lincoln when such products or commercial equipment is installed or used in a residential or non-commercial application. Installations not within the applicable building or fire codes render this Limited Warranty and any responsibility or obligations associated therein null and void. This includes any damage, costs, or legal actions resulting from the installation of any Lincoln commercial cooking equipment in a non-commercial application or installation, where the equipment is being used for applications other than those approved for by Lincoln.

LIMITATIONS OF LIABILITY

The preceding paragraphs set forth the exclusive remedy for all claims based on failure of, or defect in, products or services sold hereunder, whether the failure or defect arises before or during the warranty period, and whether a claim, however instituted, is based on contract, indemnity, warranty, tort (including negligence), strict liability, implied by statute, common-law or otherwise , and Lincoln its servants and agents shall not be liable for any claims for personal injuries, incidental or consequential damages or loss, howsoever caused. Upon the expiration of the warranty period, all such liability shall terminate. THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, IMPLIED OR STATUTORY NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE SHALL APPLY. LINCOLN DOES NOT WARRANT ANY PRODUCTS OR SERVICES OF OTHERS.

REMEDIES

The liability of Lincoln for breach of any warranty obligation hereunder is limited to: (i) the repair or replacement of the equipment on which the liability is based, or with respect to services, re-performance of the services; or (ii) at Lincoln's option, the refund of the amount paid for said equipment or services.

Any breach by Lincoln with respect to any item or unit of equipment or services shall be deemed a breach with respect to that item or unit or service only

WARRANTY CLAIM PROCEDURE

Customer shall be responsible to:

- Immediately advise the Dealer or Lincoln's Authorized Service Agent of the equipment serial number and the nature of the problem.
- Verify the problem is a factory responsibility. Improper installation or misuse of equipment, are not covered under this Limited Warranty.
- Cooperate with the Service Agency so that warranty service may be completed during normal working hours.
- Travel Time not to exceed two hours and mileage not to exceed one hundred (100) miles.

GOVERNING LAW

Limited Warranty shall be governed by the laws of the state of Delaware, USA, excluding their conflicts of law principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from application to this Limited Warranty

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